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ABSTRACT

Student financial contributions toward postsecondary education are examined in this report from the Minister's Task Force in Alberta, Canada. Critical examination of various rationales are made as a basis for determining the directions in which student costs should move. This includes a discussion of social equity, societal investment and benefit, student motivation, personal investment and gain, institutional factors including program costs and enrollment, public opinion, and political, economic, and manpower factors. Two major related issues that are considered include: postsecondary education as a right or privilege, and the benefactors of higher education. An examination of student financial assistance programs in Canada describes programs available and makes comparisons with the Australian system. It is suggested that the most important considerations when assessing student costs are social equity, societal factors, and personal factors. The results of this investigation suggest there is no justification for asking students to increase their contributions to postsecondary education and that possibly student costs should be reduced. It is also noted, however, that public opinion and political factors do not support this opinion. Comments concerning some of the recommendations made by the majority of the task force are included. (Author/SF)

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Rationales for Determining
Student Contributions to Costs of
Post-Secondary Education

RIR-79-5

S. Hunka

Division of Educational Research Services
Faculty of Education
University of Alberta
Edmonton, Alberta

August, 1979

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ERRATA

Rationales for Determining STudent Contributions to Costs of Post-Secondary Education, RIR-79-5

1) Title page: Change the Date August 1978, to August 1979

2) Page 93

a) Point 2) should have the value $1.33 billion instead of $870 million.

b) Point 3) should read as follows:

Corporation tax increased from $270 million to $384.5 million and then to $412.5 million, providing a total 3 year collection of about $1.01 billion. Rebates for the same period included $8.5, $246, and $148 million for a total of $402.5 million. In addition special incentives were $33.3, $49.2, and $75.2 million for a total of $157.7 million. The net corporation tax for this period was about $505 million.

The correction noted as 2b above almost double the estimate of individual income taxes collected, and reduces corporation taxes collected by about $55 million.

Addition

Page 29:

2.2.1 United Nations

The United Nations has expressed its position on the issue of social equity in higher education through Article 13c of the International Covenant on Economic, Social and Cultural Rights:

> "Higher Education shall be made equally accessible to all, on the basis of capacity, by every appropriate means, and in particular by the progressive introduction of free education;"

Canada acceded to this Covenant on May 19th, 1976, and it came into force in Canada on August 19th, 1976.

Reference: United Nations, Human Rights, A Compilation of International Instruments of the United Nations, E.73.XIV.2, New York, 1973

s. hunka

ABSTRACT

The author was a member of the Minister's Task Force to study the contributions post-secondary education students ought to make towards their education. Early in the deliberations of the Task Force it was suggested that a critical examination of various rationale ought to be made as a basis for determining the directions in which student costs should move. This report is an attempt to present such rationales and to present a basis for assessing the degree to which each should influence the direction of costs.

The rationales presented include social equity, societal investment and benefit, student motivation, personal investment and gain, institutional factors including program costs, enrollment, public opinion, political, economic and manpower factors. In some instances data from related studies, not examined by the Task Force are presented.

In the author's opinion the most important rationales would suggest that student costs should be reduced, however, public opinion and political factors counteract this position.

A review of the present student assistance program in Alberta is made with some contrasts made with the system in Australia. The report is concluded with comments concerning some of the recommendations made by the majority of the Task Force.

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INTRODUCTION

As a member of the Minister's Task Force to Review Students' Contributions to the Costs of Providing Post-Secondary Services in Alberta , the author was asked to prepare his own personal recommendations, as were other members of the Task Force, in the latter part of the Summer of 1978. The various individual submissions formed the initial basis of discussions by the Task Force.

Since the majority of the Task Force voted to not include individual recommendations with material collected from other agencies, letters from the public, and briefs from organizations, and since the author voted against this motion, this document reflects to a large extent the author's position on the tuition fee problem. In addition, the author collected a considerable amount of information which he felt should receive greater emphasis in the analysis of the issues.

The amount of information which potentially exists and which can be brought to bear upon the problem of post-secondary tuition fees and costs is very large indeed. The analysis of the information may not be consistent from one person to another, and in such circumstances requires the development of a guiding set of rationales, rationales which must be frequently adjudicated not as right or wrong, but in terms of a continuous and sometimes relative scale of more or less value. There is little question in the author's mind that all members of the Task Force were hard pressed to digest the large amount of data which was available.

The terms of reference of the Task Force are given below.

Terms of Reference

1. The Task Force will review the levels of students' contributions to the primary costs of providing post-secondary services in Alberta for a period from 1969 to 1977 inclusive. Specifically, primary costs are meant to include those capital and operating costs incurred in providing instructional, research, and public service programs at Alberta's advanced education institutions.

2. The Task Force also will review the levels of students' expenditures on the associated costs of participating in post-secondary study in Alberta for the period from 1969 to 1977 inclusive. Specifically, associated costs are the direct costs an individual incurs due to his or her status as a student. Associated costs include room and board, transportation, books, clothing, entertainment, and other expenses. For purposes of this review, associated costs will not include foregone earnings.

3. The Task Force will review and compare current contributions made by students attending Alberta advanced education institutions with contributions made by their counterparts in similar Canadian institutions.

4. The Task Force will review thoroughly a substantial body of historical information, dating back to 1969. In this regard, it may wish to collect information through surveys, interviews, public hearings, the receipt of briefs, and review of other relevant documents in the preparation of its conclusions and recommendations.

5. The Task Force will develop recommendations as to what the appropriate ratio should be between students' contributions and the costs of providing post-secondary services at Alberta advanced education institutions.

6. The Task Force will develop recommendations concerning the alternative means that could be implemented to make adjustments to the contributions of students to the costs of providing post-secondary services.

7. The nature of this review requires that close communication between the Minister and the Task Force be

maintained. At mutually agreed to times, the Chairperson of the Task Force will present progress reports to the Minister.

8. The Task Force will provide a complete report of its activities, its conclusions, and its recommendations to the Minister of Advanced Education and Manpower for his consideration.

9. It is intended that the Task Force activities will begin on or about January 1, 1978 and be completed by December 31.

1. Post-Secondary Education: Broad Issues

1.1 Right or Privilege

Two major issues which are related to the Task Force's central concern stem from the question as to whether post-secondary education is a right or a privilege, and from the question of who are the benefactors from such education. In this section both questions are examined.

The question of post-secondary education being a "right" or a "privilege" suggests an over-simplification of the problems associated with student contributions to their educational studies. Furthermore, it tends to make the object of the right or privilege the student, when clearly there is an analogous question to be asked of government and society. This question when posed to government and society translates to, "Must government and/or society support post-secondary education, or can it not if it so desires"?

Although one may identify the positions of unequivocal right and unequivocal privilege, the result can only be useful as an academic argument. The problem is confounded by the fact that education involves the interaction of the student's abilities with the available learning resources and opportunities. Post-secondary education, because it is directed towards very specific educational needs of the student and society, is not a right in the same sense as the inalienable rights of civil liberties and access to due processes of the law. In the case of civil liberties, these rights are not dependent upon the learning capabilities of the individual, but rather upon the fact that a person exists. Even in the case of civil liberties, society has taken the right through its enforcement of laws, to remove certain civil liberties through due processes of the law. The clearest right is that of access to due processes of law; it is not a privilege. In the same sense the student has the right to due processes of post-secondary education, but as in legal matters, access to these processes are a function of the antecedent actions of the student. However, post-secondary education is not a privilege either, for privileges are obtained by too numerous methods which include bestowment, purchase, and inheritance. Access to the processes of education is a right which becomes more specific in its nature as the student continues to demonstrate that he or she can maintain that right by the ability to learn.

The answer to the question of government's and society's obligation to support its post-secondary education system, is examined in section 1.2.

1.2 Value of Post-Secondary Education

1.2.1 To Society

A number of recent articles, e.g., Silber, 1978, have appeared in which authors have advocated that only the student benefits from an education. The author does not believe this to be a correct or a reasonable position. The author will take the position that both society and the individual benefits from post-secondary education.

In the most general manner, what might be the objective of post-secondary education from society's point of view? Because it is very difficult to assign specific values of importance to various objectives of education, one might more easily indicate a rank ordering of importance. Without referring to specific types of post-secondary education, the author would define and rank order the general objectives of post-secondary education to society as follows.

1. Education which helps man move towards a better understanding of himself and the world in which he lives; to move toward higher levels of self preservation and cooperation, for example, the discovery of the mechanisms associated with immunology.

2. To control the forces about him and to modify these in line with (1), for example, the development of a polio vaccine.

3. To maintain at least a static position in (1) and (2), and to prevent recursions to lower levels of preservation and cooperation by the application of what is already known, for example, the establishment and maintenance of a program of vaccination.

Although these objectives are ordered, one objective cannot exist without the others if progress is to be made.

Although different types of individuals will contribute towards reaching the objectives noted above, one must not attribute more or less worth to individuals because of their level of contribution. The inherent worth of individuals is unquestionable in a democratic society, however, the value of their efforts may be extremely variable and highly dependent upon various influential segments of society. Society as a collective entity of individuals reaps the greatest benefit from the outcomes of post-secondary education. These benefits are almost universally accessible to all individuals as a right. For example, the work required to produce a polio vaccine is of almost infinite value in erradicating a dreaded disease, and is available to all citizens of our country. Yet the final resolution of this problem was not a product of Canada or Alberta. It is easy to cite other examples such as the work of Einstein in relativity theory and physics, and the more recent work of Crik and Watson on the RNA and DNA molecules.

It is the author's opinion that society has become too accustomed to living off of the hard work of small dedicated groups of people without full recognition of the basis of such work. In addition, society is awed by the knowledge and processes which have been developed without paying due respect to the individuals responsible for the creation of the knowledge on which the processes are based.

For our society the difference between today and the dark ages of ignorance is only two generations. One need only to speculate what would happen if post-secondary education were not available for two successive generations. It is only an understanding of our world by society which causes this crucial difference to exist. Post-secondary education is of fundamental importance to maintaining and increasing this difference.

1.2.2 To The Individual

Generally, individuals benefit from post-secondary education, however, not all individuals benefit to the same extent (Mehmet, 1978). The degree of benefits are influenced by personal characteristics including ability to learn, motivation, initiative, and external factors such as the field of application and prevailing economic conditions.

Individual benefits may include personal satisfaction as well as monetary benefits. Both must be taken into account, although society tends to give greater recognition to the monetary benefits. There exists a federal and provincial taxation system which directly modifies the monetary benefits obtained by individuals, and generally speaking, for most individuals the modifications are independent of the methods by which benefits were earned. However, for some individuals and organizations governments do give important concessions by recognizing the source of financial benefits and modify tax structures accordingly.

It is not always possible to relate in a simple manner the effects of post-secondary education to individual monetary benefits. For example, a lawyer may make a large proportion of his income from real estate, and so might an electrician.

It appears to be a trend in our society that post-secondary training is viewed as occupational training, designed to provide an immediate source of income for the individual and for the employer. If this trend continues, then the more liberal arts education will be continually downgraded, and, or reserved for older students who have already established a position in the working world of material and service production. Society will probably continue to place more respect upon individuals having made demonstrable financial gain over those individuals who have provided the basic ideas upon which such gains were made. Cash flow will continue to be perceived as more important than the flow of creative ideas.

In some instances individual benefits are negotiated and demanded, e.g., through union bargaining, while in other instances benefits are legislated or left to the individual interacting with the market-place. All three can produce benefits ranging from one extreme to another. In some instances post-secondary education provides the entrance into one of these procedures for obtaining individual benefits. Monetary reinforcement will likely continue to be a very powerful motivator for individuals in the forseeable future.

Post-secondary education can also serve the purpose of escaping from a lower socio-economic level to a higher one. Given the appropriate circumstances of motivation and accessibility, post-secondary education can assist in breaking a historical trend of poverty and welfare support in a family.

1.2.3 To The Economy

It is more difficult to relate post-secondary training to the economy since the latter is influenced by a number of factors including the availability of natural resources, human resources, the distribution of capital, efficiency of production, mobility of goods, and the world economy. Generally, a combination of natural resources and a populace which knows how to take full advantage of their natural resources produce robust economies. However, when natural resources are deficient, e.g., Japan and Germany, a robust economy can be created and maintained, but, the efficient use of human resources and access to raw materials are important. As long as Alberta's economy is accelerating due to resource development, technical trades will continue to be important and draw relatively high individual benefits. The generation of secondary and tertiary industries also requires skilled technical trades not only for construction but also for operation and maintenance. As the level of the spin-off from primary industries increases, more highly trained personnel will be required.

Although the economy of Alberta seems highly related to the infusion of capital, this factor may not be the most important factor for an industry such as agriculture where optimization of output is important. Having creative manpower in this instance becomes critical, because although one may, through mechanization, harvest greater areas with fewer people, the control of pests and diseases cannot be as directly related to mechanization. Control of pests and diseases requires creative ideas of people who are well trained in such areas as chemistry, micro-biology, and entomology. A similar argument exists for the development of new genetic strains of grains.

In an economy strongly supported by natural resourses, it is frequently heard that what is needed is a worker who will "lay more bricks than suggested by the union", who will not strike, and who will do an "honest" day's work for his employer. Less frequently does one hear the need to develop better methods of building roads to withstand extremes of temperature, a cheap and efficient way to gasify our coal, or a better way to drill for oil. Seldom, if ever, do we hear of the need to improve the strenths of structural steel, our teaching effeciency and effectiveness, our understanding of cell metabolism, or the quality of our fine arts. These contrasts illustrate the short-ranged basis on which parameters of the Alberta economy are judged, and bias the approach of relating post-secondary education to economics.

1.2.4 To Manpower Needs

A young province such as Alberta has had to depend in the past upon immigration to meet certain manpower demands. Immigrant manpower was encouraged to open the country, for example, to build the railways and mine for coal, and this dependence has been vaguely recognized. To some extent, Alberta has also depended upon highly trained manpower from other parts of Canada, e.g., in the early 1900s doctors came from eastern universities. In effect, much of Alberta's early manpower was trained at someone else's expense. Particular recognition has had to be given to the movement from out of the labor force by retirement of technically trained people from Europe. This is another reason for the rapid expansion of technical post-secondary institutions. This growth is likely to taper off somewhat, but will still remain high because of the need to develop conventional energy sources. However, new energy sources will require highly trained manpower. More tar sand projects can be built, more coal can be mined, more dams can be built, but these tap existing energy resources using existing knowledge.

New energy sources which use fission, fusion, solar, or geothermal energy can only be capitalized upon by the development of highly skilled and creative manpower. Although this might be to the economic detriment of a province such as Alberta highly dependent upon conventional energy sources, it will not deter consumers in other countries to develop the technology for exploiting these newer and more exotic sources in order to reduce external dependencies. It should be noted that major companies traditionally involved in oil and gas production are diversifying into other energy resources including coal and uranium.

There is little protection against creative discoveries other than other creative discoveries. This phenomenon is well illustrated by technical escalations of military arms. Creative inventions are no longer made in the basement of a cottage laboratory. Today, inventions require a solid foundation of education to create and exploit new knowledge. This is an insurance policy for economic security in the future.

1.2.5 To Cultural Values

In Canada, and particularly in a young province like Alberta, cultural values have yet to be well defined and established. We in Alberta have few patrons of cultural activities. History probably does not repeat itself in creating cultural activities of the kind which have been traditionally important to the lay and professional alike in Europe. Because Alberta is young, we do not have a cultural heritage other than that brought by immigrants or retained by our native peoples.

Although recognition is given by the provincial government to a multicultural background of many Albertans, and this is to be lauded, Alberta should not forever depend upon the importation of a culture through immigration. Slowly, we must encourage the development of cultural activities based upon the skills of those who are Albertans and Canadians. Post-secondary education in this respect will encourage the development of those skills. But regardless of the source of cultural products, they fall upon barren ground if society does not accept them for the skills and creativity they embody. The Hon. A.B. Campbell noted in a speech to the Science Council of Canada that Canada and the U.S. use twice the amount of energy per capita as the other twelve developed nations, but the U.S. ranks second last and Canada ranks last in the number of books produced per million population. Since we have a society which contains the "newly rich," and in some cases "the absentee rich," we do not have a tradition of patrons supporting the arts. Only society through its government can start the process of education which would, hopefully, bring about the development of highly trained skills finding their expression in cultural activities.

The contribution of higher education to culture has been noted by Porter, Porter, and Blishen (1973):

> Another argument for equality of educational opportunity or universal access to higher education is the cultural enrichment one. People can live a fuller, more satisfying life if they know how to enjoy books, art galleries, and symphonic music, and people from all social classes should have the opportunity to develop their intellectual potentialities if they have the inclination.

1.2.6 To Political Factors

All governments make decisions concerning the distribution of wealth and resources, as well as making regulations to control actions of individuals and corporate bodies. Government does this in full recognition of those publics it perceives to be supportive and important to its existence. The publics which are supportive and important are not necessarily defined by the electoral public, for government must react to many forces from a wide variety of sources. Fortunately, in a democratic society the electorate does, at specific periods in the life of a government, have the chance to formally voice its opinion. During other times many direct and indirect routes are used to affect the nature of government decisions.

A government cannot be solely concerned with single issues for long periods of time, although it must face singular issues for frequently they are thrust upon government by external forces. For example, the emphasis on oil exploration and development has probably been accelerated in time and degree by the OPEC countries. During international and national emergencies governments must of necessity give singular attention to immediate problems. However, the author believes that each government must give some thought to the short and long range humanistic needs of the society which it governs. Governments are made up of people who, like other people, can be so caught up in immediate problems as to not see the "forest for the trees."

Governments overly attentive to estimating the human condition by cash flows, by artificially inflated value of products, and by the work capacity of human labor, will in the long run destroy the human spirit in its broadest sense. On the other hand humans must interact with their environment, both physical and biological in order to survive. These needs must also not be neglected.

It is author's impression that the publics which currently support the present government in Alberta lean towards a value system which places greater respect upon material wealth generated by rapid single initiatives with only lesser recognition to the basis of such wealth and its long range function. In a sense we are consumers rather than producers with little hesitancy to exchange our resources for goods and services of other countries. We are predisposed to exchange our wealth for finished products of other countries and services provided in warmer climates.

There is a tendency for influential publics to view with high importance the investment of cash resources. Time and effort are not viewed as investment unless there is an associated financial pay-off. Time and effort with little financial pay-off is perceived to be somewhat irrational and unfortunate.

Subsidies to groups of individuals are viewed with more suspicion than subsidies to corporate organizations, even though corporate organizations are collective entities of people. Legal morality supersedes social morality.

Post-secondary education is viewed as a costly process not always directly related to the accelerated production and maintenance of goods and services. Contributions to the production of goods and services which could have only been based upon the results of post-secondary training are generally not recognized beyond their immediate application and benefit. When we are in great need of the human results of post-secondary education we are more prone to let it be done in other countries or to assume that such productiveness can be created in the same manner as constructing any material product. Money was able to accelerate the placing of a man on the moon because the basic theories were already established. It will not be as easy to develop fusion energy because the laws are yet to be discovered. Only people discover such laws. Money does not.

Post-secondary education plays an invaluable roll in ensuring that the public is capable of sensing for, and acting against abuses of individual freedom. It also enhances understanding the processes of democratic government. It is difficult to envisage, for example, an illiterate populace questioning a declaration by government of a national emergency, or understanding the problems of international finance. The complexity of these examples necessitates more than a grade school education.

2. Rationale

In order to make recommendations it is necessary to first analyze various rationale which were presented to the Task Force. These rationale are as follows:

1. Rationale Related to Societal Factors
    a. -social equity
    b. -societal investment and benefit
2. Rationale Related to Personal Factors
    a. -student motivation
    b. -personal investment and benefit
3. Rationale Related to Institutional Factors
    a. -costs, quality, and automomy
    b. -enrollment
4. Rationale Related to Public Factors
    a. -representativeness
    b. -attitudes
5. Rationale Related to Political Factors
6. Rationale Related to the Provincial Economy
7. Rationale Related to Manpower Needs

2.1 Background

Although considerable emphasis has been placed upon tuition fees in the deliberations of the Task Force, the Committee was responsible for making recommendations in the general area of student costs. Four types of expenses can be identified as being within the domain of this mandate:

1. -living expenses,

2. -tuition and related costs,
3. -transportation (particularly for rural students),
4. -foregone earnings.

The Minister noted that the Task Force should not deliberate upon the component of foregone earnings.

Living expenses are not under the control of either the government or the educational institutions, although some institutions do attempt to provide accommodation at cost for students. Living expenses are directly related to the economy and will fluctuate according to the supply and market demand. Living expenses are of particular importance to rural students and those students who have decided to obtain their post-secondary training outside of the province. A new cost-component which affects the living expenses for students in those institutions which do provide student housing, is municipal tax levies which have been assessed by municipal governments. Parenthetically, it should be noted that in 1977-78 the University of Alberta paid approximately $434,000 in municipal taxes for student residences. One can expect living expenses to more accurately follow the consumer price index than any other student cost. It should be noted that at some levels of post-secondary education and for some institutions the provincial government subsidizes housing very substantially by owning residences which are not subject to municipal tax levies. Thus, this may be considerd a subsidy to post-secondary education made by the municipality.

Theoretically, tuition fees are set at the universities by the Board of Governors and approved, or not approved by the Minister. There is some evidence that this does not work in practice for it seems to be subject to controlling pressures exerted by government. It would seem that colleges which have their own boards, operate in the same manner as universities, but technical schools, provincially administered institutions, and vocational centers have their fees set more directly by government. Tuition fees are not subject to fluctuations of the free market although for the institution many of their operating costs are.

In addition to tuition fees, costs directly related to post-secondary participation include such sundries as textbooks, materials and instruments. Although textbook costs may be considered subsidized through the availability of libraries, and institutional bookstores, direct costs fall upon the student and are related to the courses in which the student is enrolled. This seems to be more generally true for university and college students. At technical schools, costs are generally less and frequently materials and, or instruments are supplied. It should be noted that costs of textbooks and instruments are subject to the free market and reflect changes in inflation. Thus, these costs are not subject to much amelioration by a decision of the student, other than the decision to enroll in a particular program of study.

Although transportation costs are subject to some market forces, these forces cannot be controlled by the student. The student may, however, have a choice of selecting higher or lower transportation costs, and the frequency of their use. Clearly, the students from rural areas will have high transportation costs, four or six times during the school term, and possibly during the summer if employment opportunities are not available close to home. However, it should also be noted that for certain urban students transportation may also be costly. For example, handicapped students must drive and find parking space for their cars. In addition, those students who may be working part-time or full-time, may be required to minimize travel time and use more expensive modes of transportation, i.e., a car rather than public transportation.

2.2 Social Equity

A persistent question that has been raised with regard to increasing or decreasing tuition fees is what effect this would have on accessibility of post-secondary education to students from different socio-economic levels of the society. Since finances are a limited resource for all practical purposes for the majority of students, one cannot deny that financial resources and accessibility must be to some extent related. The more difficult question, and one of practical importance, centers about how closely these are tied together.

In economic terminology, the question of how elastic is enrollment or accessibility with respect to costs, and specifically tuition costs, was raised within the Task Force and in some of the literature which was provided (Vredeveld, 1978). If the tuition cost is to be considered in this context then the additional factor of socio-economic level must also be introduced. Thus, the question is, how elastic is enrollment as a function of cost and socio-economic status? The literature provided appears to have treated the elasticity of enrollment only as a function of one variable at a time. The question which must be posed is what is the change in enrollment, i.e., the elasticity of enrollment, at various socio-economic levels, and as a function of costs? Of course, enrollment cannot be related only to factors of socio-economic level and tuition costs, for these variables are also probably correlated with motivation, attitudes towards post-secondary education, risk taking, and willingness to incur a debt. The Task Force heard, for example, that students from lower income groups are reticent to take on debts for post-secondary education particularly in the light of the additional risks of finding suitable employment after graduation.

In thinking about the problem of enrollment elasticity as a function of socio-economic level and tuition fees, although the argument holds for any cost associated with post-secondary education, the author has envisaged the relationship to be expressed as a curvilinear surface bounded by axes of cost, enrollment, and socio-economic status or level. It seems reasonable to think about the elasticity of enrollment as a function of cost at a number of different levels of economic status, and then to think of the functional relationship between enrollment and economic level for various levels of cost. Taking these variables in pairwise fashion, it seems reasonable to conclude that the elasticity of enrollment is not the same at different levels of socio-economic status as most economists seem to imply by the models which they use. It seems that a potential student in a very low socio-economic class may still not decide to enroll if a current fee of $500 is reduced to $450, when he cannot afford either the $500 or the $450 fee. In other words, the enrollment or accessibility at this socio-economic level is not elastic. If the other extreme is considered, a similar phenomenon is found. A student at a high socio-economic level is unlikely to decide against post-secondary training because a fee of $500 is raised to $550 if he can afford considerably more. So, again enrollment is not elastic at this level of socio-economic status. If a small fee which most low socio-economic level students could afford were increased, then there would be a more rapid loss of this class in enrollments, while at the other socio-economic extreme there would be a very small drop in enrollment. This position is supported by measures of elasticity reported by Weinschrott in a report prepared by the Rand Corporation (Weinschrott, 1977).

The type of three-dimension graph which represents this relationship is illustrated in Figure 1.

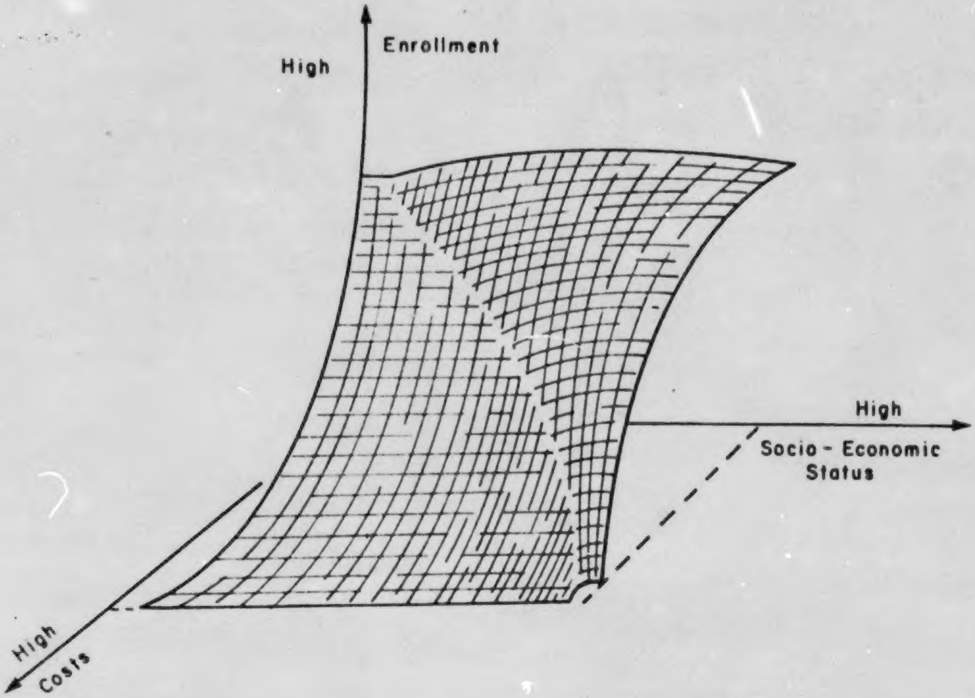

FIG. 1. RELATIONSHIP AMONG COSTS, SOCIO-ECONOMIC STATUS AND ENROLLMENT

It should be noted that in Figure 1 enrollment at the lowest point of socio-economic level drops very rapidly as costs increase, while at the highest level of socio-economic status the curve of enrollment first decreases only slightly with increasing costs, and not until costs become quite large is there a rapid drop. Of course, there must be some point between these two extremes through which a straight line can be drawn. This straight line would represent the inflection point between a curve which initially decreases rapidly and the curve which initially decreases only slightly. In order to obtain a better understanding of the surface, one may view the surface from the right looking towards the plane formed by the axes of enrollment and costs. If this is done, the result for three levels of the socio-economic status is given in Figure 2.

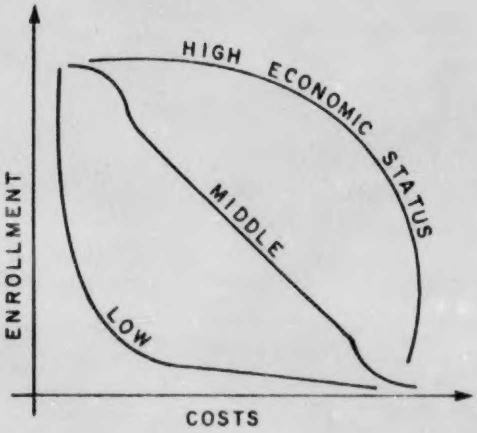

FIG. 2. ENROLLMENT VS COSTS FOR THREE LEVELS OF ECONOMIC STATUS

The upper-most curve of high socio-economic status is represented by the right-most edge of the three-dimensional graph, the low socio-economic curve is represented by the left-most edge of the graph, while the straight line represents those points on the three dimensional graph where the two triangular surfaces meet. This line tends to occur over that socio-economic range typically referred to as the middle-class.

Figure 2 suggests that the elasticity of enrollment, or rate of change in enrollment with respect to cost is quite different for different socio-economic levels. At a low cost a slight change can have a marked effect on accessibility of the lower classes, but little on the middle and upper classes. If tuition is increased, soon the lower class accessibility is lowered to such a point that further increases in costs are immaterial, but the increase does begin to affect the elasticity of enrollment with respect to the middle classes. It should be noted that enrollment is elastic for almost the full range of costs for the middle classes who also form the bulk of society. This estimation is not unreasonable given some of the current opinions regarding the tax burdens carried by the middle class. It may not be so much of a burden in the absolute financial sense, but the fact that at almost any range of change in cost, some effect is noted on a portion of the middle class, i.e., affects accessibility. It can also be noted that if a frequency distribution of people in various socio-economic levels were plotted with the three dimensional graph, the greatest number in the population are very rapidly affected as costs are increased.

Weisnchrott (1977) also supports the position noted above.

> "The results of the analysis (of Project Talent data) confirmed that financial and aptitude constraints are effective barriers to college enrollment and that the effects differ across socio-economic and sex-defined strata."

In analyzing a second study the Rand report notes the following:

> "In studying the failure of Boston students to attain their aspirations, the authors found that the financial constraint was identified by only 3 percent of the students who desired to go to college but were unable to do so. However, among those who did not aspire to college training, it was clear that the main reason was the cost. Therefore, the results suggest that desire as well as plans are affected by cost."

In a research report published by Educational Testing Service,, Princeton, N.J., Centra (Centra, 1978) also notes the relationship of fees to accessibility.

> "One not very surprising conclusion is that price does affect access. Each of ten studies reviewed by McPherson (1978) found a significant relationship between cost to students and their probability of

> attending college. The magnitude of this price effect, however, is not great. A $100 cut in tuition according to McPherson, would result in only a one percentage point increase in enrollment rate. McPherson estimates that tuition would have to be cut in half to raise the enrollment rate by 15 percent."

The problem of social equity was raised in a report entitled Some Characteristics of Post-Secondary Students in Canada (1976) prepared for the Department of the Secretary of State:

> "The data seem to suggest that there is still wide inequality in participation and hence probably in accessibility - at the post-secondary level in Canada. There still appear to be large differences in patterns of participation for students from different socio-economic backgrounds, as well as for males and females. For example, females appeared more likely to enrol in community college courses rather than in university courses and were thus under-represented in professional and graduate programs. Similarly, the proportion of students whose parents had a university education and hence who often had higher incomes was greater for students in universities than in community colleges. It was also higher for professional and graduate students than for undergraduates."
>
> "These inequalities are important for public policy because they tend to extend differences in earnings from one generation to another. Earnings tend to be higher and more stable for parents with a university education than for those without. Thus students from the already privileged classes in society appear more likely to obtain a university education and hence to earn the higher incomes associated with it."

The discussion above concerning social equity considers only one aspect of the problem. Pauly and Willet (1972) as reported by Mehmet (1978) point out equity of an "ex-ante" and "ex-post" nature. Ex-ante equity refers to the concept of equal access to the opportunities of post-secondary education, while ex-post equity refers to the equality of the results obtained. Within the context of the Ontario university system, Mehmet has questioned the effectiveness of ex-ante equality by noting the unequal distribution of students from high income levels in faculties of law, medicine and dentistry and cites a Canadian study entitled Post-Secondary Student Population 1968-69 . Table 1 from this latter study, indicates the discrepancy of enrollments by income group. Although the discrepancy appears large, the full meaning of the data cannot be obtained unless the population percentages for both income groups are known.

TABLE 1

Enrollment Percentages by Income and Program of Study

Enrollment	Low Income(<$6,000)	High Income(>$20,000)
Law	2.4%	54.3%
Medicine	9.1%	26.3%
Dentistry	3.4%	20.1%

However, the Ontario data in Mehmet's study does not as closely support the data collected by federal survey. An analysis of the Ontario data by enrollment and income does show a significant (probability<.01) relationship between program of study and level of income. Table 2 below suggests where the major discrepancies exist between actual and expected enrollment frequencies.

TABLE 2
Location of Discrepancies Between Expected and Observed Frequencies of Enrollments

Program	Income Level 1	2	3	4	5	6	7	8	Degree of Dis. (1 low)
Fine Arts		-	-	+			-	+	1
Health Science	-	+	-			-	+	+	2
Education	-	-	+	+			-		3
Social Science			-	-	-	+	++		4
Math. Phy. Sci.			++		+		-	-	5
Engineering	++	+	+	+			++	--	6
Humanities	-	-	-	++		--	--	++	7
Ag. Bio. Sci.	+	++		--					8
Gen. Arts Sci.	-	-	-	++	+	+	--	--	9

++ -- very much above and below expectations respectively
+ indicates enrollments above expectation
- indicates enrollments below expectation
blank indicates about that expected

In noting the program levels which contribute most to the significant relationship between program level and income (last column of Table 2), the Humanities, Agriculture and Biological Science, and General Arts and Science contribute the most. The relationship is not a simple one when individual programs are considered. General Arts and Science appears to draw considerable more students from middle income levels and few from upper and lower income levels.

Engineering and Agriculture draw more than expected from lower income levels. Nevertheless, an overall significant relationship exists between program of study and level of income.

Ex-post equity, the equivalency of post-education pay-off will be affected by the relationship of enrollment pattern and income level, because the career entered will be highly related to pay-off. Mehmet has estimated the pay-off for various income levels and these are given in Table 3.

TABLE 3

Benefit Cost Ratios

	Income Group	Monetary Benefit*	Net Cost*	Benefit Cost Ratios	
				Actual	Relative
1.	$ 1,999	20.6	16.5	1.25	1.13
2.	$ 2- 3,999	39.6	51.0	.78	.74
3.	$ 4- 4,999	51.3	74.6	.69	.65
4.	$ 6- 9,999	254.0	239.4	.88	.83
5.	$10-14,999	430.9	340.9	1.26	1.19
6.	$15-	462.6	416.0	1.11	1.05

*in millions

The table suggests that for the Income Group 2 ($2,000-$3,999) the return on a dollar investment is estimated to be 67 cents, for the income group $10,000 to $14,999 the return is $1.26. Mehmet discounts the importance of the large cost benefit for the lowest income group because the participation rate is so low. Mehmet concludes that at least for Ontario, "university education (in

Ontario) strongly favours the rich and subsidizes the middle and high income groups at the expense of the lower income groups." Although one may disagree with the differences being "at the expense of the lower income groups", there is evidence to support the position that enrollment patterns are related to income level. Mehmet acknowledges that a confounding variable to a fuller understanding of the relationship may be socio-culturally based attitudes. The study done for the Department of the Secretary of State noted earlier also suggested that the father's education may be a more important factor than income in explaining differences in participation rates in post-secondary institutions. Unfortunately many studies in this area, including the one just noted, surveyed only those students already in attendance at a post-secondary institution. Such a deficiency is analgous to attempting to assess the health status of Canadians by only studying those people who appear in a doctor's office. If such a survey were conducted one conclusion would be that all Canadians were sick.

2.3 Attempts to Achieve Social Equity in Other Countries

The Task Force received little information concerning how other countries have attempted to cope with the issue of social equity. The information noted below was obtained by the author through making personal contact with colleagues in other countries. However, the information provided below is not the personal position of those contacted. The information does exist in published reports available to the public.

2.3.1 Australia

Anderson, et al (Anderson, 1978) have attempted to study the effects of abolishing fees upon the social composition of students in Australian universities and colleges. Unfortunately, there are too few studies which have been conducted with well documented evidence based on data prior to and after abolition of fees.

The major conclusions of this study are as follows:

1. Students attending country colleges are the most vulnerable to levying of fees.

2. The financial position of the student provided the best explanation of likelihood to not enroll or defer post-secondary education. The following table illustrates this point:

TABLE 4

Percentages of Students Who Would Defer or not Enroll if Fees Were Charged

Socio-Economic Status	University	Metro Colleges	Country Colleges
1(low)	32.8	25.5	41.7
2	25.3	22.4	35.4
3	22.1	20.0	25.7
4	16.5	16.8	24.0
5(High)	13.1	14.0	18.7
N	5080	3466	1609

3. Younger students were considered to be less vulnerable than older students to fee changes because of parental support.

4. The students most under-represented in post-secondary education would be most affected by fees. These students are part-time students, women, older students, rural students, and students from low socio-economic backgrounds.

5. The abolition of fees has affected a large number of students but the effect on the social composition of the institutions has been small. Estimates of the effect range from 3.5% for the low socio-economic status students at universities to 5.2% in the country colleges. The greatest effect would be upon students currently under represented.

In summary, this study notes that:

> "There is still much social inequality and economic hardship in society but its roots are deep in the social fabric and it would be unlikely that a simple change at one particular point in the system, such as abolition of fees, would have any great effects on the social composition of students in higher education. Most of the social handicapping

> circumstances have had their effect well before students even get to the point of seeking a place in higher education." (Anderson, et al p. 257.)

The information for the European countries noted below was obtained primarily from a single source entitled, "Admission to Medical Education in Ten Countries," edited by B.B. Burn (1978). Additional information concerning the Federal Republic of Germany was provided by a pamphlet for foreign students supplied by the local German consulate.

2.3.2 Denmark

1. "For more than a century it has been declared public policy that access to education at the university level should be free to all qualified persons. As a consequence of the concept of free access to higher education for all those qualified and of the central government's financing of universities and comparable institutions as well as of secondary schools (in Denmark called Gymnasia), no tuition fees are required." (Worm-Peterson, 1978.)

2.3.3 France

1. "The VER and university budgets are totally financed by government. It pays faculty salaries and operating costs, and supports research. Tuition costs are very low, less than $70 per year." (Pone and Antoine, 1978.)

2.3.4 Federal Republic of Germany

1. "In 1834, university entrance examinations were abolished in Prussia. Since then it has become a German tradition that the completition of secondary education guarantees the right for admission to higher education." (Renschler, 1978.)

2. In 1964 a brochure for foreign students noted that tuition fees to be expected ranged from 200DM to 300DM. The same brochure republished in 1976 noted the following:

> "A special feature of the educational system of the Federal Republic and West Berlin is that neither German nor foreign students are required to pay university fees". (Deutscher Akademischer Austauschdienst, 1978.)

All students are required however to pay to the "Sozialgebuhr", an amount ranging from 100DM to 200DM per semester for health and accident insurance and students union.

2.3.5 Italy

1. "Italy, in 1969 abolished the only restriction placed on admission - possession of a diploma from a 'classical' or 'scientific' high school." (G.M. Fara, 1976.)
2. "In order to be admitted to the university, students must present an acceptable diploma and pay a very modest fee ($100 - $150 a year) from which they may be exempted if their family's income is under $3,000. In this case the students are also eligible for state aid in the form of what are referred to as "pre-salary" payments, amounting to $1,000 a year".
3. "While admission to the university is an individual right regulated by law, admission to higher vocational education is selective.........."

2.3.6 Holland

1. Until 1969, every student with a proper secondary school certificate could go to his choice of medical school, while during the period 1970-72 special placement committees allocated students to various universities. However free access was maintained. Since 1972 and with some modification in 1975, a lottery system of allocating students based upon grades has been operational.

2.3.7 Sweden

1. Reform of admission procedures were made in 1975 in part to alleviate social disparities. In 1973-74 the upper socio-economic class accounted for 42% of university enrollment while only 11% in the population, while comparable figures for the middle and lower classes were 39% and 37%, and 50% and 21% respectively.

2. "The fact that Swedish secondary adult education, like all other public education in Sweden, including higher education, is free of charge, may counteract hesitation to embark upon a long-term training program." (Larsson, H., 1978.)

2.3.8 United Kingdom

1. "All school leavers who have been resident in the United Kingdom for three years or more, and who have not previously received support for a course of higher education, are eligible to receive mandatory grants from their home local Educational Authority to cover their tuition fees and maintenance while at university. The only proviso is that parents are required to contribute a part of that total cost on a scale related to their income. The contribution may vary from nothing to the whole cost less 50 pounds per year." (Greenfield, 1978.)

The information presented above may be biased in some details because it was presented by writers in the context of medical education. However, the following conclusions seem reasonable:

1. The problem of social equity to post-secondary education, and particularly universities, has been recognized, and efforts have been made to solve the problem.

2. The countries noted above cannot by any reasonable standards, all be considered as left-wing socialistic

countries. It would seem inappropriate therefore to react to their recognition and solution of the social equity problem by suggesting that only left-wing governments have attempted solutions.

3. The issue of social equity has been approached from two directions:

    a. the reduction or elimination of fees,

    b. a change in admission policies, the latter in its extreme represented by legislation, and

    c. providing some form of living allowances.

4. The social equity issue is not ameliorated solely by reducing costs because social equity has cultural and motivational components which are established in the time period prior to seeking admission to higher education. However, those components which are most amenable to change, i.e., finances of the student, have been openly modified by many western democratic countries.

2.3.9 United States

The Task Force received little direct evidence of the philosophical position taken by the United States on the matter of access to post-secondary education. Perhaps a position is not possible because, in contrast to the countries noted above where federal governments appear to take an active role in post-secondary education, in the United States such participation is left to the concern of each state. However, one position has been clearly voiced by such people as John Silber (Silber, 1978), and Patrick Moynihan (Moynihan, 1978). Silber has noted that tuition fees have increased to a point where some families cannot afford to support the education of their sons and daughters. For example, Silber cites medical tuition at Georgetown and

George Washington Universities as $12,000 per year. Although there is federal assistance, Silber has noted that,

> "...since eligibility is generally limited to the financially disadvantaged, most families earning more than $15,000 a year---that is, about half of all American families - find themselves ineligible for assistance under these programs."

Silber recognizes that families cannot carry the burden of financing post-secondary education and presents his rationale for solving the problem:

> "In order to achieve authentic educational opportunity, we must introduce the old-fashioned American principle that the person who receives the benefit is the one who ought to pay for it.
>
> The Tuition Advance Fund offers precisely that solution by gently but firmly transferring the burden of financing higher education from the backs of the parents to the shoulders of the student."

Such a position, at least to this writer, assumes that only the individual benefits from an education, and what is good for one individual must equate to being good for society as a whole. In extrapolating the position that the one who receives the benefit ought to pay, Silber has noted the seriousness of such a commitment when he states that the only way of defaulting upon a loan by the student would be death, disability, and unemployment. Fraud would be an internal revenue matter, and the "IRS already has an answer: it is called Leavenworth", i.e., a jail term.

A marked contrast to the Silber and Moynihan position can be noted in comments made by Fred Hechinger (Hechinger, 1976), who has voiced the position that education has been attacked from the right and from the left with the result that the decline of educational importance "threatens the survival of American democracy."

> "A slow-down in the escalator of upward mobility constitutes a break with the most fundamental American ideals. The consequence will be stratifed, classbound society ruled by a self-perpetuating power elite of economic and social privilege. It would be the end of the road that was opened by Thomas Jefferson when he called for a new aristocracy of talent to replace the old aristocracy of inherited power."

Clearly, the position Hechinger has voiced is one of social mobility brought about through an educational system. Speaking more directly to tuition costs, Hechinger notes that:

> "At leading private colleges the annual bill for tuition and board now exceeds $6,000. Stanford University recently warned future applicants that non-scholarship students for the four undergraduate years would be charged about $30,000. The State University of New York is expected to raise its tuition to nearly $1,000 some time this year.
>
> .....What is at issue is the new principle - to make sure that nobody gets a free educational ride. This

> is the exact opposite of the principle that used to guide American thinking: let the greatest possible number benefit from education.
>
> .....If free tuition is only a minor skirmish on the sidelines, the impact of steadily rising tuition on what might be called the heartland of the population - the working and lower-middle class is a matter of serious concern.
>
> .....Higher education, which has scored significant triumphs in assuring upward mobility and preventing the stratification of American society, is in danger of being forced to move in the opposite direction - to restratify America.

It is most likely, that if an American position had to be stated on the matter of access to post-secondary education, it would be found somewhere between the two extremes noted. Clearly, one approach to the social equity question is based upon the "users pay" rationale which must be supported by financing schemes in order to allow students to attend. With financing schemes, however, come the concommitant problems of the willingness of students to take on debts, and the problems of repayment which Silber has so glibly solved, by noting that going to jail, death, disability, and unemployment are the only means of escaping the debt. Silber has perhaps forgotten that one solution is to leave one's country. Hechinger, on the other hand views access to post secondary education being closely tied to social mobility, and a method to resist the forces which lead to the creation of a power aristocracy based upon inheritance. Hechinger also relates access to post-secondary education as a basis for perserving democracy. It should be noted that the majority position of the Task Force was in the support of the Silber and Moynihan position, and not that reflected by writers such as Hechinger.

The problem of social equity has been of concern in the United States. The 1978 edition of the National Center for Education Statistics notes that,

> "The area of greatest public interest in the postsecondary sector since World War II has been higher education. During this time five issues have been of special concern: access to higher education; enrollment growth; financing higher education; the Nation's level of achievement in the physical sciences, and desegregation. Among these issues, the problem of access has probably received the most attention."

The relationship between access and socio-economic status is also noted in the same report:

> "Among the factors which influence an individual's decision to participate in higher educaton are race or Spanish origin, family income, and years of schooling of family head. About 49 percent of white high school seniors, for example, report having plans to attend college in 1975, while about 41 percent of black students and about 48 percent of seniors of Spanish origin report such plans. Among high school seniors coming from families having an income of $25,000 and over, about 81 percent plan to attend college; in contrast, only 37 percent of students whose family incomes are under $5,000 has such plans. However, the proportion of students planning to attend vocational schools increases as the level of family income decreases."

TABLE 5

College Enrollment of 18-24 Year Olds by Family Income and Group in United States (1976)

Race and Ethnic Group	Less $5,000	$5,000 9,999	$10,000 14,999	$15,000 19,999	$20,000 24,999	Over $25,000
White	28%	15	17	24	32	46
Black	15	17	21	24	24	38
Hispanic	15	11	17	22	17	39

Table 5 above prepared by the U.S. National Center for Education statistics clearly indicates that as family income increases the proportion of students enrolling in colleges increases. In addition, for the last three years covered by the report (1974-1976 inclusive) enrollment by females exceeds that of males.

The State of California has demonstrated a considerable degree of leadership in the area of providing access to colleges and universities to all levels of socio-economic classes. Unfortunately, recent information was not available to the Task Force, however, a report entitled, An Evaluation of the Tuition Fees Principle in California Public Higher Education, prepared by a Coordinating Council for Higher Education in 1965, noted the following enrollment patterns by income class:

TABLE 6

Percentage Distribution by Parental Income Class

Income Income Class	Jr. Coll.	State Coll.	Univ. Calif.	Priv. Univ.	Priv. Coll.	Other*
$ 0- 1,999	1.6	.7	2.9	.5	.7	2.1
2,000- 3,999	6.2	3.3	2.0	1.3	2.9	7.6
4,000- 5,999	15.4	10.0	7.4	4.9	5.8	15.9
6,000- 7,999	19.0	16.6	11.0	6.5	11.7	27.0
8,000- 9,999	16.4	16.8	12.9	10.1	12.4	27.2
10,000-11,999	13.9	19.5	13.1	10.4	13.3	24.5
12,000-13,999	7.0	10.5	11.2	11.7	13.8	20.9
14,000-19,999	10.7	12.7	20.0	16.7	18.0	23.8
20,000-24,999	2.5	3.2	6.5	12.5	7.3	5.9
25,000-	4.0	4.4	11.6	22.7	11.9	30.6
No Response	3.1	2.4	1.3	2.8	2.2	5.7

*Not clearly defined in original document

This data suggests that the three types of institutions supported by the State of California, i.e., the first three columns, more closely reflect a normal distribution of population by income than that represented by the enrollment at private universities. Unfortunately, more data for the 1965 year would be required to be more sure of the effect of free tuition fees. The same report, in summary noted the following:

> "The philosophy underlying the funding of the University of California and the exsistence of tuition free or low cost education in all public segments is (1) to make higher education democratically accessible and (2) to provide trained manpower for the state's economy. Recent findings of

> a study of the California State Scholarship Commission disclose that tuition free education in California has not fully accomplished the intent of that philosophy, for California's record in inducing high school graduates to secure a college degree is below the national average. Other data indicate that financial need is a critical influence in the decision not to go to college for a substantial number of the non-college-going students in California."

The final recommendations of the Commission were as follows:

1. continuation of free tuition, but exempt students from low income families from the student fee system, and/or
2. substantial increase the present scholarship program extending the basis of costs.
3. revise the present tax structure to recapture much more rapidly any higher earnings resulting from a college education.

The following alternatives were also presented:

1. continue the tuition free policy for junior colleges, but institute fees at the two public four year institutions but with a system of tuition exemptions of the upper divisions and graduate levels for children coming from low income backgrounds, and/or
2. extend the scholarship program to cover additional costs of attending an institution, and/or
3. institute a deferred tuition repayment plan, forgiving repayment when a student enters certain occupations, and/or
4. institute a massive state loan program at low interest rates.

The California example demonstrates the attempts of one State to address the problem of equality of access to post-secondary education.

2.3.10 Province of Quebec

Little information was presented to the Task Force which would clarify the rationale of other Canadian Provinces. An exception was that some information was available from Quebec. A documented entitled Report of the Superior Council of Education, 1976-1977, reported that no tuition fee existed in CEGEPs, somewhat equivalent to our colleges, and that the greatest financial hardship fell on part-time students who did not have access to grants and loans. This Council recommended the following:

> "All students in public and private colleges in certification or diploma courses should receive free tuition, regardless of the number of courses in which they are enrolled".

The Council also made recommendations regarding student finance programs and noted the incongruity of having students take on loans before being eligible for grants and at the same time being warned of the dangers of indebtedness.

2.4 Societal Investment and Benefit

Society continues to consider education of sufficient importance to legislate its existence and in some cases its activities. Society has also legislated the age range of those who must participate, although this legislation may have been motivated more by humanitarian needs than a need to provide for a literate citizenry, i.e., removal of children from the labor market. Society through its government participates in providing resources for education. Both federal, provincial, and municipal governments participate, however, it is not always clear what portion of a tax may be allocated towards educational services. For example, municipal governments identify that portion of a tax which is collected for educational purposes, while the provincial government prefers to accept federal funds and to collect taxes to general revenues from which it then reallocates according to its political, economic, and social policies.

Government must decide what quantity of resources in terms of dollars it will skim from production of goods and services in order to carry out certain functions. Capital is treated very frequently as a resource in itself because of its isolation from the source of its generation, e.g., money is borrowed on the "capital market," seldom being recognized as a vehicle for transferring human based energy. Similarly, knowledge is treated very frequently as an existing resource because it frequently exists in isolation from its source, e.g., the knowledge of pasteurization exists in most peoples' minds as independent of the source which generated the knowledge.

Frequently knowledge is generated within one society but benefits many other societies.

1. The people of Alberta, and in fact any society, have and are benefiting by the results of educational systems operated in societies other than their own. There is an unorganized reciprocity between societies and nations. The degree of reciprocity varies, for it involves the movement of knowledge and people. For example, we have benefited by the development in England of radar, and by the development of polio vaccine in the United States. We have benefited through the migration of technical trades people from Europe. We have also contributed to other societies by such developments as insulin, and the development of dental amalgams.

2. Benefits from the post-secondary sector in this regard may be transitory or lasting. Technical training seems to be more transitory, contributing more to an evolution and maintenance of the production of goods and services. It is more directly related to observable benefits. Academic training tends toward the basic purpose of producing ideas, which when well conceived and rationalized are more permanent. One must also recognize that there is no clear line separating these two positions. The permanent benefits based upon the development of ideas are ones which tend not to respect national or international boundaries, thus becoming available to all. Often, this is incomprehensible to the business community except when medical knowledge is required. Governments also frequently find this phenomenon difficult to understand. In a competitive world, attempts are sometimes made to control the movement of ideas in order to give the creating society a competitive edge whether for purposes of protecting life as during wartime, or in the protection of production techniques, e.g., industrial secrets.

It would be very nice if we could determine the extent of the benefits Alberta has gained because of post-secondary educational systems in other countries, and then to estimate what our contribution should be. But this approach is impossible since no resolution can be made of the benefits. However, this does not negate the fact that benefits have accrued. If a financial assessment cannot be made, at least one has to recognize that there is a moral obligation to provide a post-secondary education system which has the potential, although probabilistic, of contributing to the benefit of all mankind. If the probabilistic nature of the benefit bothers the reader, consideration should be given to the fact that drilling for oil and gas has similar properties.

It is the author's opinion that Albertans have reaped benefits which far outweigh their contributions, and their investment into post-secondary education systems is small relative to the benefits received.

If the reader feels this position is an over generalization, simply consider the personal value which has been obtained by the irradication of polio.

Because capital has become an important basis for economic expansion, and since in many people's minds it has become disassociated with its creating source, i.e., one goes to a "capital market," the importance of the traditional basis of the market is discounted by Gilpin (Gilpin, 1975). In a paper prepared for the U.S. Subcommittee on Economic Growth, and by reference to Solow and Kuznets, Gilpin gets closer to the source of capital than most Albertans might recognize. With reference to Solow's work, Gilpin notes,

> "As a consequence of this pioneering study and subsequent research of other economists, economists appreciate today that the foremost input to economic growth is the advancement and utilization of knowledge."

and with reference to Kuznets, Gilpin notes,

> "The major capital stock of an industrially advanced nation is not its physical equipment; it is the body of knowledge amassed from tested findings of empirical science and the capacity and training of its population to use this knowledge effectively. One can easily envisage a situation in which technological progress permits output to increase at a high rate without any additions to the stock of capital goods."

Gilpin also recognizes that knowledge is not generated by some magical process inherent in the genetic structure of man.

> "Ultimately the innovative capacity of American society and industry is dependent upon the health of American higher education and its output of scientists and engineers. As the transfer of knowledge is 'person embodied', the flow of scientific and engineering graduates from universities and engineering schools into the industrial and public sectors is an important part of the innovative process. It results in the transfer of new scientific and technical knowledge from university and engineering research programs to industry or government where it can be applied. For this reason, the financial crisis of higher education and the decline of government funds for basic scientific and technical research programs threaten the long term health of American industry and society."

> "While few would deny this responsibility of the government to fund basic research in science and technology, the tendency is to underinvest in basic science and technology. The desire for short-term and immediate payoff tends to predominate over the long-term need to increase the pool of knowledge. Frequently, this deemphasis on basic science is justified on the grounds we have too much knowledge already and the task at hand is to apply what we have."

> ".....considerably more than half of the increase in American productivity had been due to scientific and engineering advances, to industrial improvements, and to know-how of management-methods and the education of labor."

The traditional business approach to economics which only considers such parameters as land, labor, and capital, must be considered short-sighted and inadequate. The growth and utilization of knowledge depends upon human capacity which is still only nurtured by a system of education, and particularly the post-secondary education system.

In recent years the U.S. trade deficit has been resolved into a positive component, mainly due to financial investment dividends and a negative component attributable to industrial-based exports. A heavy dependence upon the first component may not be politically or economically viable and stable given the national aspirations developing in many countries around the world. In July, 1978, the press reported that Canada's deficit of approximately seven billion dollars was brought about in large measure by dividend and similar payments to companies in foreign countries. The vice chairman of the Science Council of Canada (Shepherd, 1978), in a speech to the Canadian Institute of Chartered Accountants, also noted Canada's balance of trade deficits being made up largely of dividend payments and management fees.

> Between 1950-1967, while $20 billion in foreign capital entered the country $40 billion left Canada in the form of interest payments ($7 billion), dividends ($17 billion) and service charges ($16 billion) such as license and management fees.

For those Albertans who negate the importance of knowledge, the economic realities of downgrading education may be more appealing. Capital and its related social benefits stem only from human effort. Capital is not created by a magical process known only to the capital marketeers of the world.

2.5 Student Motivation

Two primary types of arguments were noted in the hearings of the Task Force. The first argument was that students would appreciate their education more if there was a tuition fee, and the second argument was that the student should be obliged to make a financial investment in his or her education.

In the first argument examples were usually given of how a "local" boy wasted his time while benefitting from public expenditures on post-secondary education. The author has not seen any objective evidence to indicate that a higher tuition fee would necessarily become the motivational factor which would eliminate such students from post-secondary institutions. (In fact one would need to explain how students are motivated in those institutions in which tuition fees are very low e.g., technical schools.) A poorly motivated student reflects more of his or her upbringing than a disregard for the use of public funds. The chances are, if fees were increased to promote motivation, that the student in the low socio-economic level who is motivated would be most severely impacted. This writer believes that it is preferable to err in the direction of tolerating the unmotivated student. This student is likely not to be in a post-secondary institution for more than one year. Such a student's admission and retention, is a matter of institutional responsibility, not the government's.

2.6 Personal Investment

A number of people have voiced the opinion that the student must make a financial commitment to education, and that this commitment is an investment for which benefit will be gained at some later date. Students tended to modify this argument by indicating a commitment and an investment need not be solely financial, and that they do make an investment particularly through their efforts, time, and direct and indirect expenditures associated with their attendance at post-secondary institutions.

An investment can be made which does not have a direct input of money. Countless people make investments in their community through the time they give to various social causes. In the same vain, the benefits from investments need not be financial either. The benefits of a well run community is not totally accountable in dollars.

Students have been making an investment in their education through time, effort and expenditures. The author's estimate of the financial investment suggests that it is a substantial one (Table 8).

The Task Force frequently heard that post-secondary education students contribute only $1 to government's $7 in support of their education. The seven dollar figure has been obtained from data provided by the Department of Advanced Education and Manpower and represents a ratio of student costs to instructional costs for universities only (Information Paper III; Institutional Costs). Table 7 gives this data for all institutions.

TABLE 7

Tuition Fees as Percentage of Operating Costs
1976-1977

Institution	Percentage
Universities	16.0%
Public Colleges	8.3%
Provincial Colleges	2.7%
Technical Institutions	5.5%
Vocational Centers	1.3%

Clearly, those institutions directly operated by government have the lowest ratio of student tuition to instructional costs, i.e., the student makes the smallest contribution. This could however be due to higher operating costs, a parameter which will be given more attention later in this report. Calculating student contributions as a ratio of fees to operating costs may not give the total picture, for clearly fees are not the only major costs associated with attending a post-secondary institution. Table 8 details a more complete estimate which leads to a ratio considerably different that $1 to $7.

On the basis of the analysis outlined in Table 8, the total contribution by students in 1976-77 was $162,215,810 and the government of Alberta contribution was $228,370,184. These figures suggest the ratio of $1 by students to $1.40 by the government. Clearly, this ratio is considerably different than the 1:7 ratio reported to the public. If estimates of foregone earnings are made based on the average weekly wage for 1976-77 the ratio becomes $3 by the student and $1 by the Alberta Government. These latter estimates are based on all operating costs, not just instructional costs.

TABLE 8

Estimate of Student and Government of Alberta Contributions (1976-77)

A. Government Costs

Institution		
Universities	$168,749,000	
Public Colleges	25,330,000	
Provincial Adm.	90,126,000	
Total	$284,205,000	
Less: Federal Cont.	60,484,816	
Net Cost	223,720,184	
Plus: Cost of Grants	4,000,000	(estimate)
Interest on Loans	650,000	(estimate)
Total Provincial Cost	228,370,184	(Capital costs not included

B. Student Costs

Institution	Enrollment	Tuition	Supplies	Other	Estimate/year
Universities	32,872	550	250	1560*	$2360
				2480**	3280
Public Colleges	7,512	280	150		1990
					2910
Prov. Inst	12,371	100	50		1710
					2630

C. Student Costs

Institution		
University	20% at home	$ 15,515,584
	80% not at home	86,256,128
Public Colleges	20% at home	2,989,776
	80% not at home	17,487,936
Prov. Inst.	20% at home	4,230,882
	80% not at home	26,028,584
		$152,508,890

TABLE 8 (Cont'd)

D. Parental Contribution

University	at home ($920 for 20%)	$ 6,048,448
Public Coll.		1,382,208
Prov. Inst.		2,276,264
		$ 9,706,920

E. Total Student Contributions

Direct by Student	$152,508,890
Indirect	9,706,920
	$162,215,810

* $1460 if student lives at home

* $2480 if student lives away from home

(1) The difference between costs of living at home and away from home allocated to 20% of the students.

There are of course limitations to the estimates made. These limitations are as follows:

1. Instructional costs are difficult to allocate accurately in any institution.
2. Staff benefits in Provincially Administered Institutions have been absorbed directly by the government.
3. Tax concessions to a student for tuition fees have not been accounted.
4. Capital costs have not been accounted. (The author attempted to obtain the year of construction and cost of buildings in order to make an estimate but the data was not available.)

Even with the limitations above, the author believes no other more credible estimates were presented to the Task Force. Porter, Porter, and Blishen (1973), report a study by Cook and Stager in which an estimate was made of the student contribution towards their post-secondary education. Their calculation indicated that students contribute about 55% of the total educational costs. Again, this figure is quite discrepant from the 1 to 7 ratio reported to the public in Alberta.

2.7 Personal Gain

Of concomitant interest to personal investment is personal gain or pay-off resulting from post-secondary education. Estimates have been published demonstrating increased earning power as a function of education, and generally speaking a positive relationship has been accepted. However, trying to relate tuition fees and student contributions to their education to future earnings is fraught with insurmountable problems. These problems are illustrated by the following points.

1. Current earnings of a graduate who graduated 10-20 years ago may not be predictive of today's graduate 10-20 years from now.

2. A graduate may currently be making a very high (or low) income because he is not working in the area of his training, e.g., a graduate engineer who becomes a land developer or land speculator.

3. Personal gain is affected by a host of factors unrelated to the area in which a graduate was trained, e.g., world economics, initiative, socio-economic status of the family, estate inheritance, health and so on.

4. Personal gain may depend upon how money is earned. For example, a financial consulting firm reported to its clients that in 1979 in Alberta it is possible to earn as much as $36,000 tax free if such income is derived from certain types of investments.

It is this writer's opinion that fees for post-secondary education should not be based upon future expected benefits. Federal and Provincial taxation policies indirectly can be designed to recover more or less income to compensate for benefits received, and tuition costs should remain unrelated to such policies.

2.8 Institutional Factors

Costs, Quality, and Autonomy

The Task Force has noted a wide range of costs associated with institutions of different types. In some cases these costs may be related to resources accumulated by an institution, e.g., buildings and equipment. Universities tend to have larger physical plants because they have been in existence for the longest period of time. In addition, because of a larger number of staff members, their operating costs in the absolute sense are higher than for other types of institutions. Calculations indicate however, that colleges and universities have lower instructional costs per student than any other type of post-secondary institution.

In some instances it is impossible to determine the true operating costs for an institution. For example, technical school costs presented have not included costs of staff benefits, utilities, and renovations. Data presented are difficult to interpret for some institutions because operating costs are lower than instructional costs! It seems clear that costs for such institutions as Vocational Centers are high because one reason for their existence may be to correct a social problem as well as an educational one.

In order to give the reader a quick overview of institutional costs, data provided by the Department of Advanced Education and Manpower have been graphed and presented below. In each graph where dollar values are reported, these have been adjusted to a 1969 dollar value, i.e., corrected for inflation estimated from an index supplied by the Department of Advanced Education and Manpower.

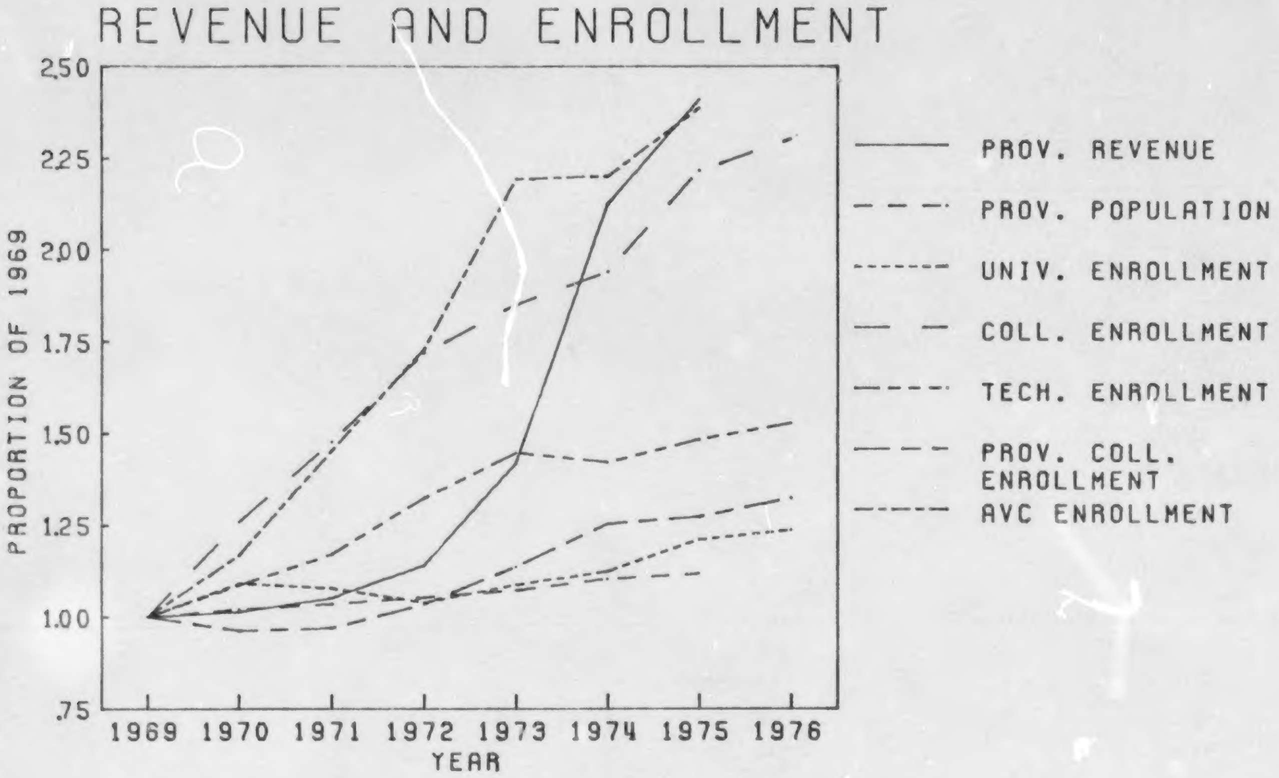

Figure 3: Revenue and Enrollment: Proporticnal increases since 1969 for enrollment, populaton and provincial income have been plotted. Large increases can be noted in enrollment for Vocational Centers, Public Colleges and Provincial government income.

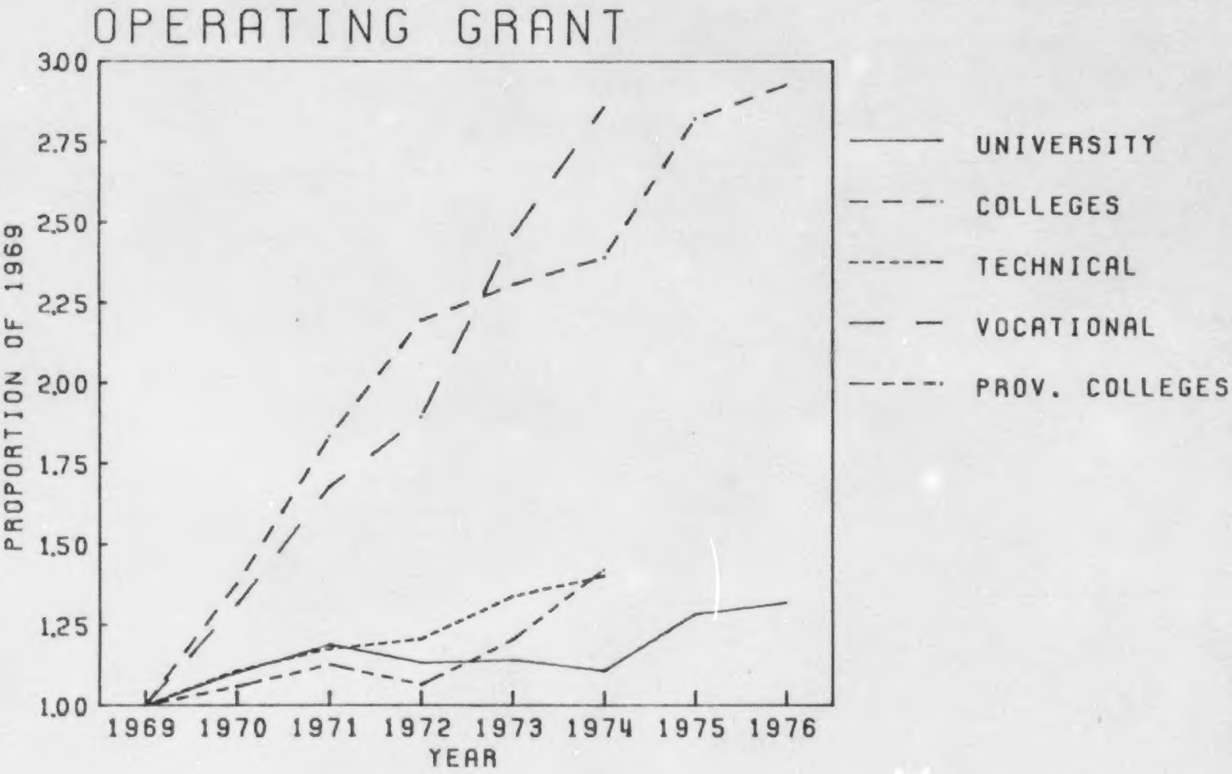

Figure 4: Operating Grant: Greatest increases in operating grants have been evidenced for Vocational Centers and Public Colleges. University operating has increased only by a factor of 1.25 since 1969.

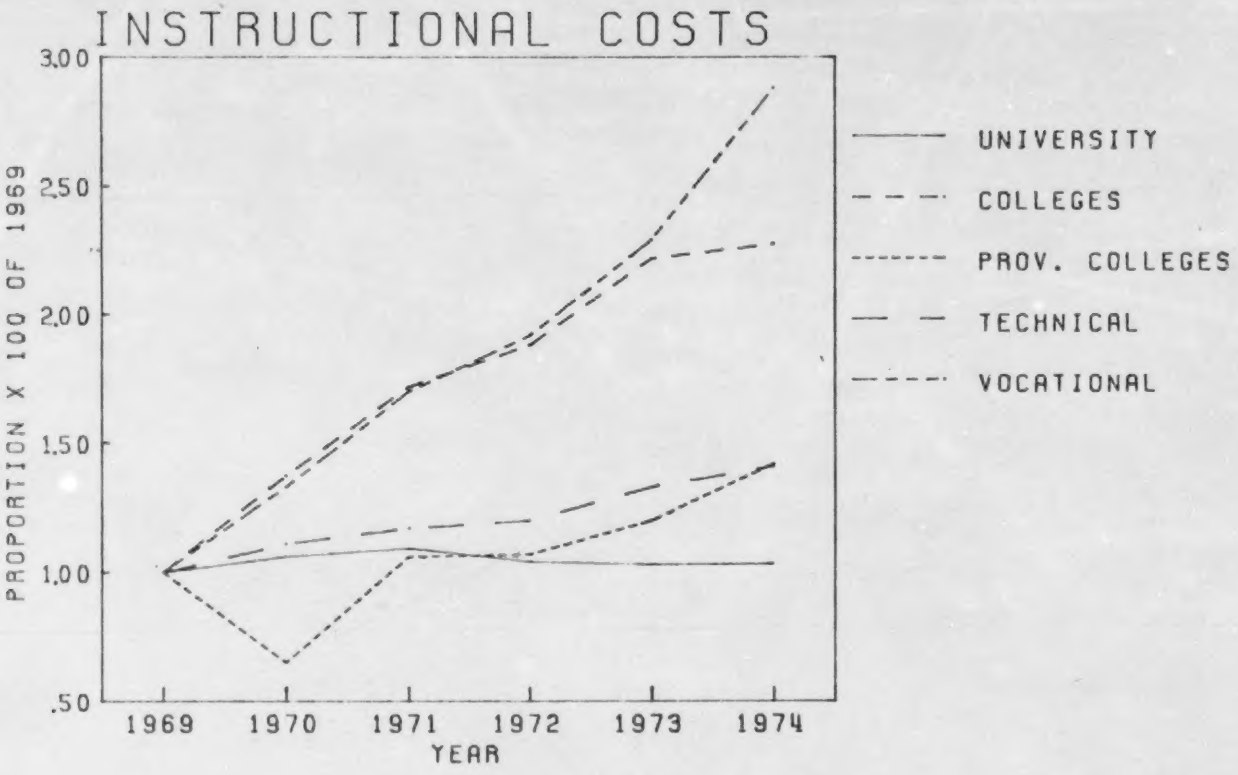

Figure 5: Instructional costs: Instructional costs show large increases for Vocational Centers and Public Colleges. University costs have remained essentially constant since 1969.

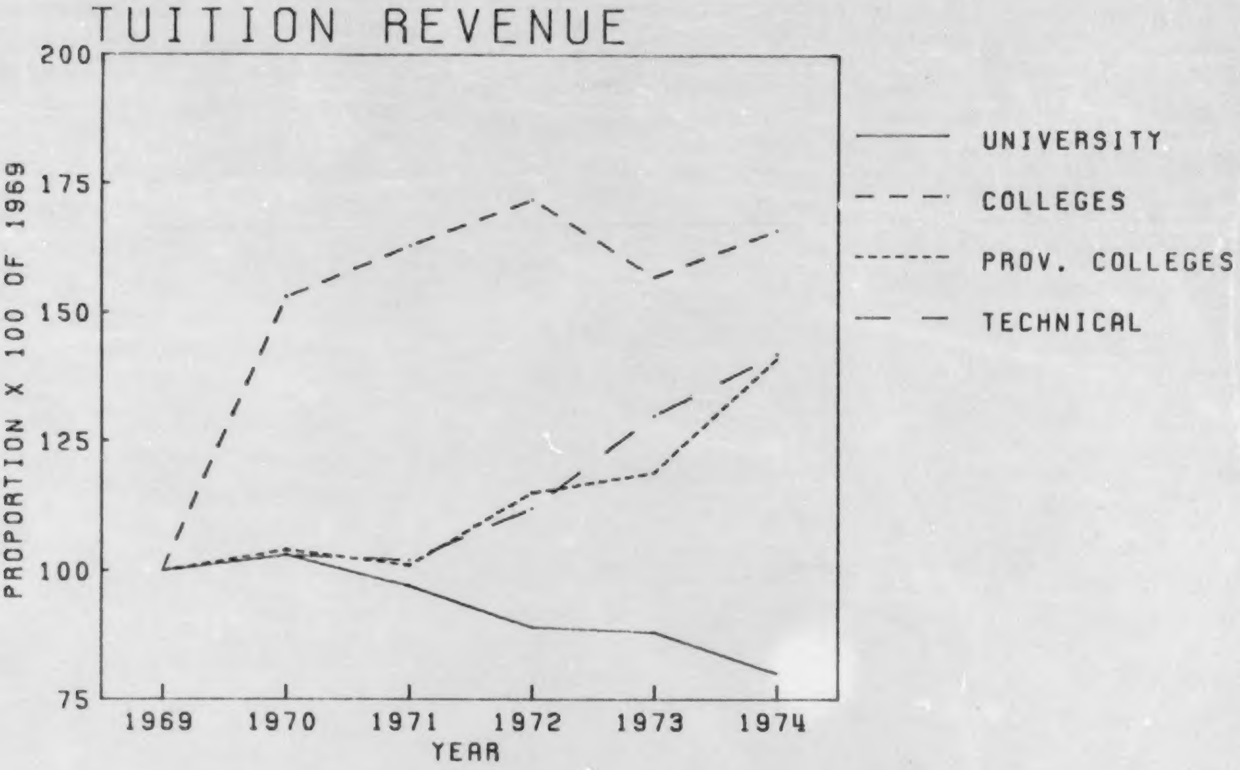

Figure 6: Tuition Revenue: Tuition revenue increased rapidly in 1969-70 for Public Colleges, and then increased only a moderate amount. Provincially Administered Colleges and Technical Institutes started their increase in 1971-72 and have maintained this increase. Universities have shown a constant decline in tuition revenue since 1970.

In summarizing the main features of Figures 3 to 6, the following may be noted.

1. Provincially Administered Colleges and Public Colleges have received the largest increases in operating grants relative to 1969.
2. Vocational Centers and Public Colleges have had the largest increases in instructional costs per student, while the Universities have shown almost no increase.
3. Revenue from tuition fees has increased for all institutions which have fees except for the Universities where a constant decrease has been noted since 1970 resulting in only 75% of that obtained in 1969.

Figures 7-10 illustrate how the same parameters as plotted in Figure 3-6, have varied within each type of institution.

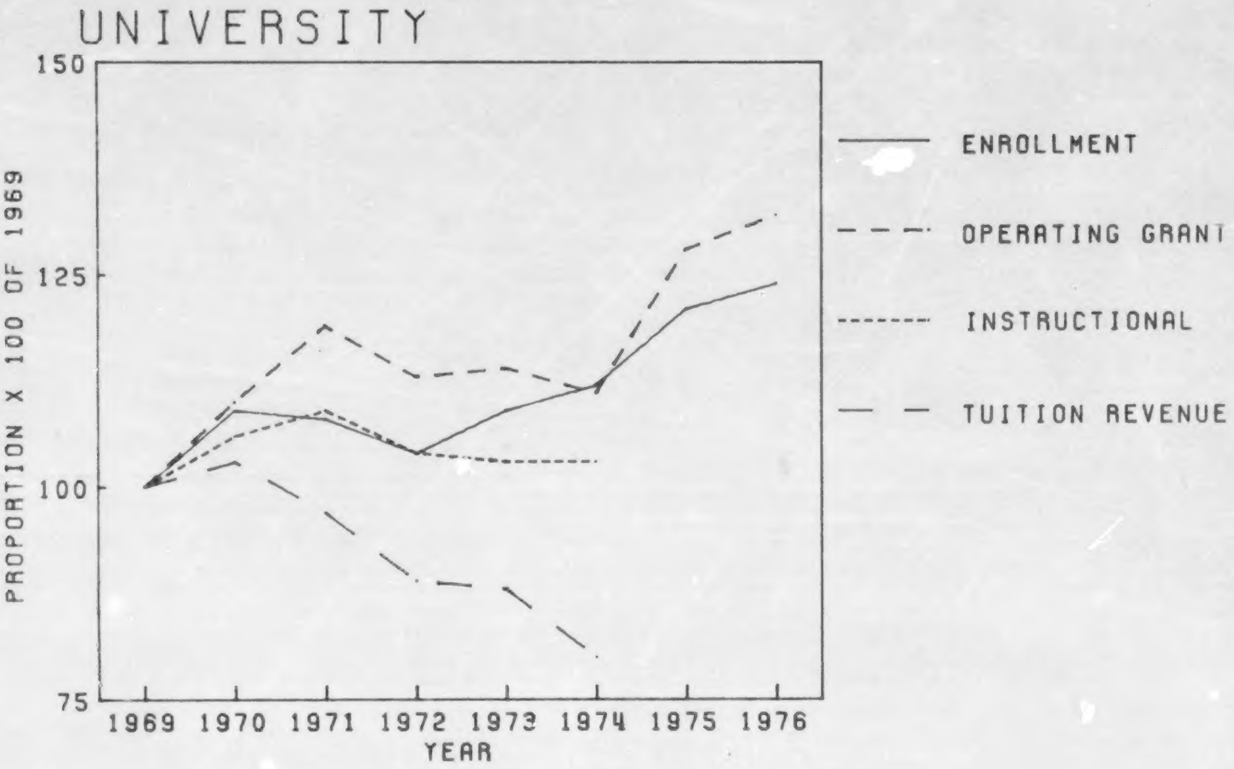

Figure 7: Universities:

a. Operating grants increased during 1969 to 1971; decreased in 1971 to 1974, then increased in 1974 to 1976.

b. Enrollment tended to follow the trend of operating grants, probably because of the funding formula in effect.

c. Instructional costs increased slightly from 1969 to 1971 then decreased to a level approximately equal to the 1969 figure.

d. Tuition revenue has declined constantly since 1970.

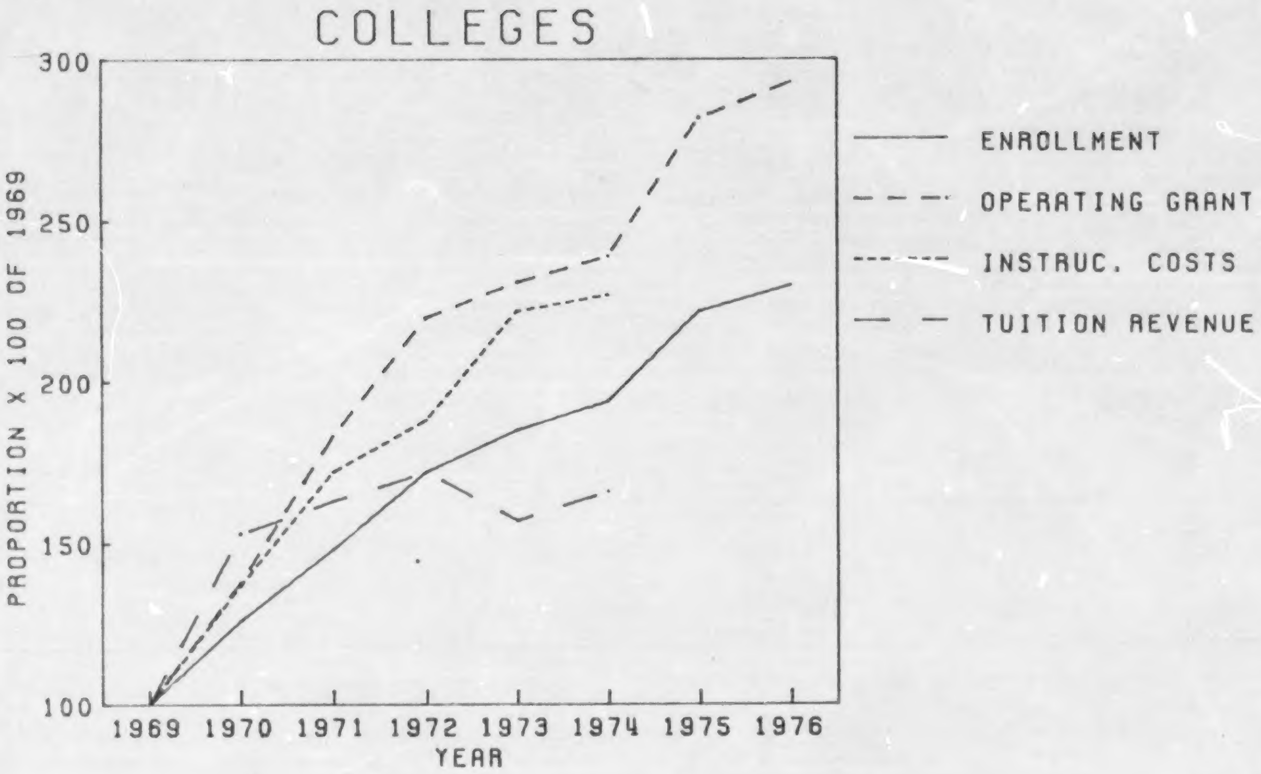

Figure 8: Public Colleges:

a. All parameters have been increasing in the period 1969 to 1975.

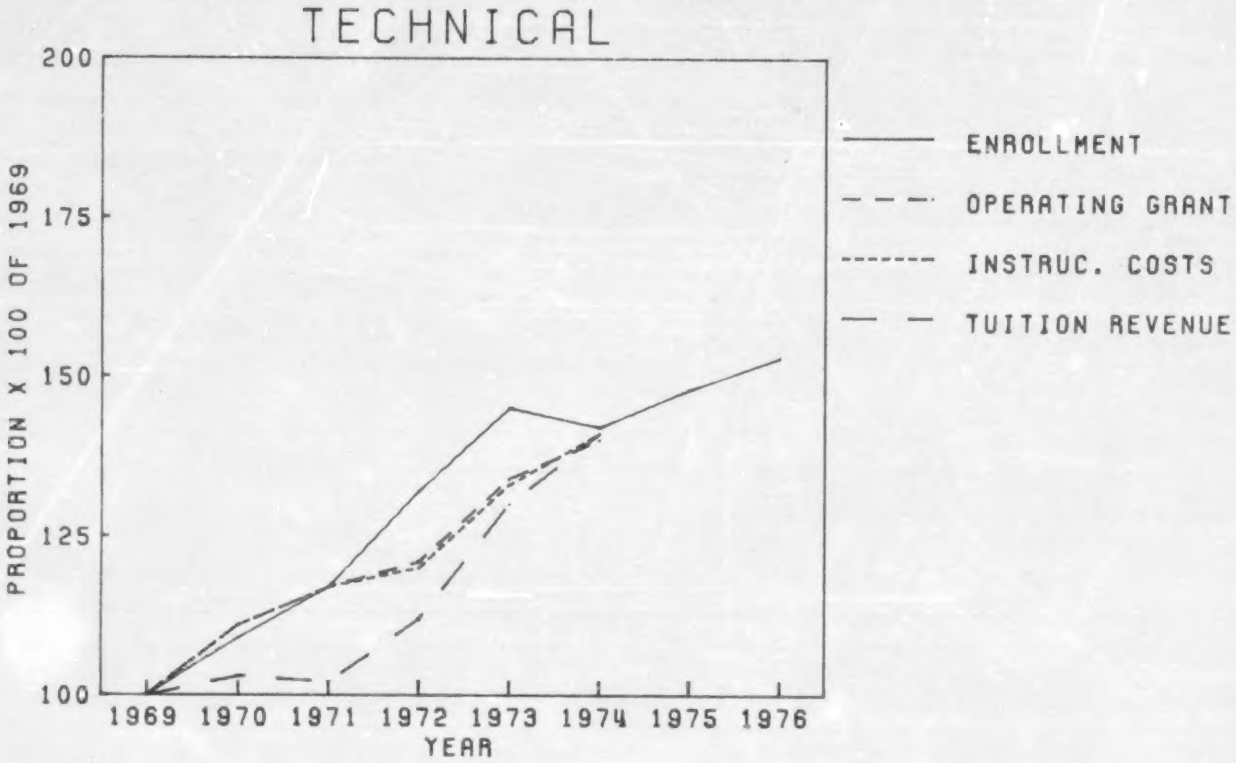

Figure 9: Technical Institutes:

a. All parameters show increases in the period 1969 to 1974.

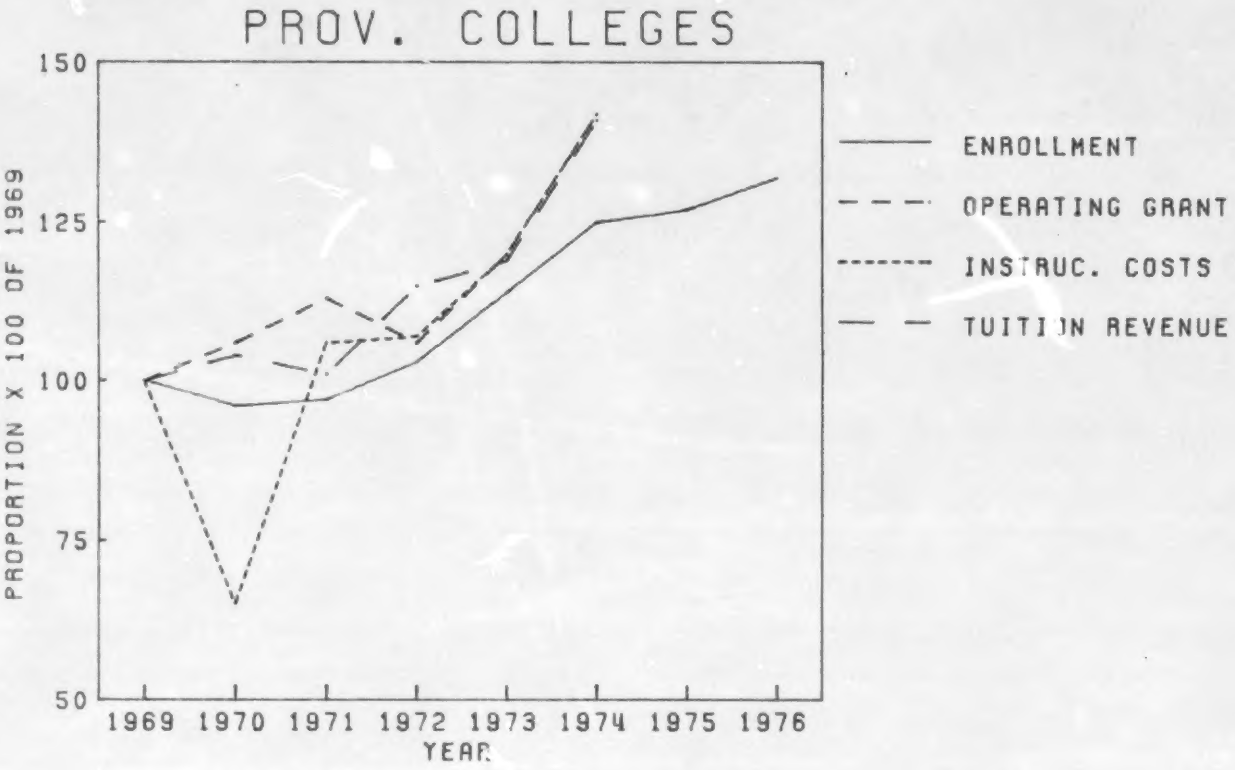

Figure 10: Provincially Administered Colleges:

a. Since 1972 all parameters show increases (1970 is probably in error).

Although it may be hard for the public to believe, only the Universities have shown relatively constant instructional costs and a constantly declining tuition revenue. The former may have been attained by having very large classes, and, or maintaining a static level of quality. The fact that the Faculty of Dentistry at the University of Alberta lost is full accreditation and is currently on probationary accreditation may be an example of maintaining a static quality which is not commensurate with 1979 standards.

Figures 11 and 12 illustrate operating costs per student and instructional costs per student respectively, for each type of institution.

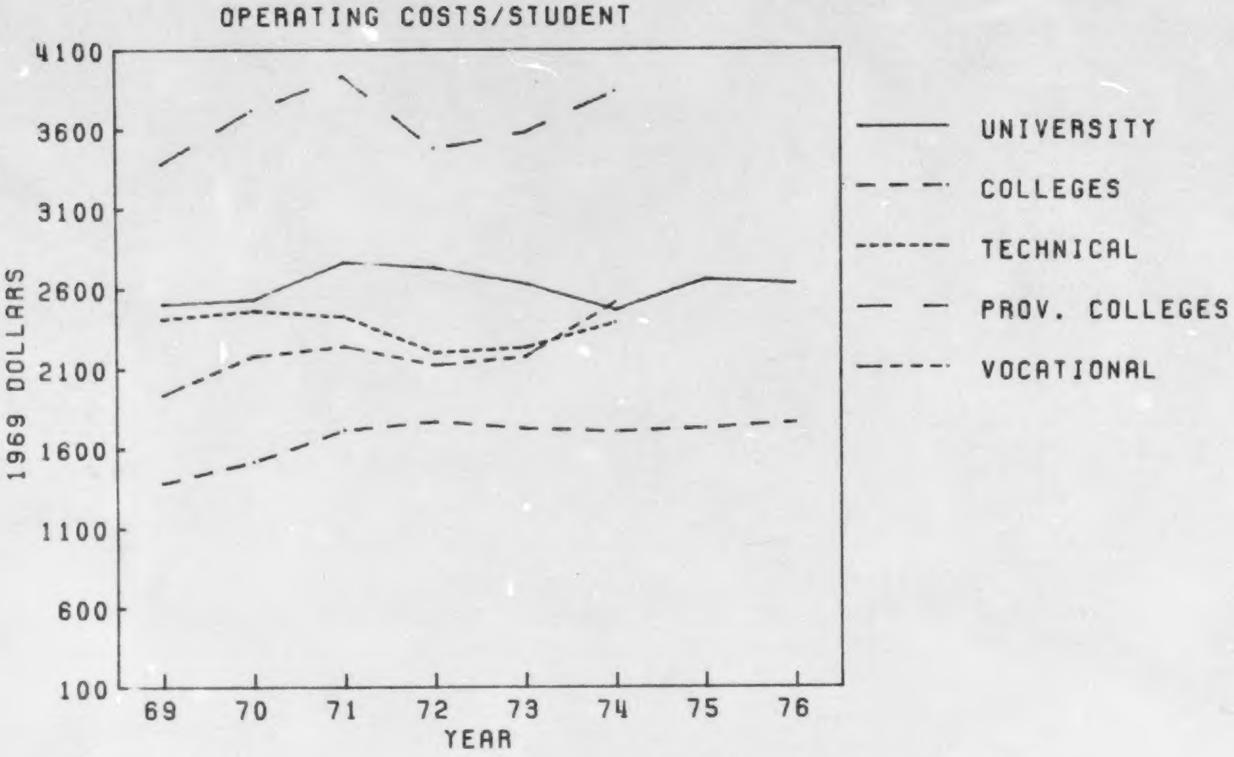

Figure 11: Operating Costs per Student: Operating costs per student provide the following rank ordering of institutions from highest to lowest costs:

a. Provincial Colleges

b. Universities, Technical Institutes and Vocational Centers in that order. By 1974 they were very much the same.

c. Public Colleges maintained the lowest costs from 1969 to 1976.

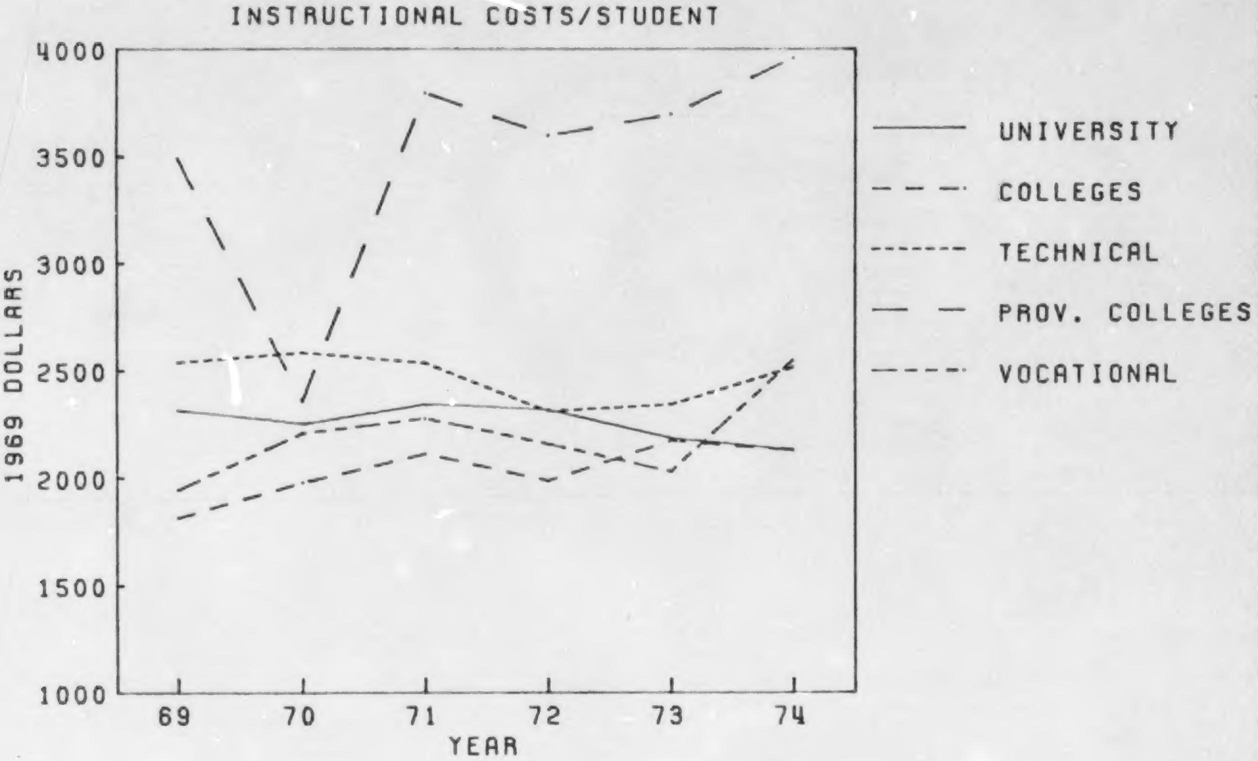

Figure 12: Instructional Costs per Student: (It would appear that an error exists in the data for Provincial Colleges for the year 1970.)

a. Vocational Centers have by far, the highest instructional costs per student for the period 1969-74.

b. Technical Institutes have maintained a relatively constant rate, with slight decreases during 1972-73 followed by an increase in 1974.

c. Universities have maintained a relatively constant cost with a slight decrease in 1974 over the 1969 cost. Universities and Public Colleges had the lowest instructional costs per student in 1974.

d. Vocational Centers showed initial increases to 1971 followed by decreases in 1972-73, but a rapid rise in 1974.

e. Public Colleges showed slight increases in 1971, decrease in 1972, followed by a relatively stable cost in 1974.

In 1974, the highest instructional costs per student were found in Provincially Administered Colleges, followed by Vocational Centers and Technical Institutes. University and Public Collges in 1974 had the lowest and almost equal costs! Perhaps it is a coincidence that those institutions operated directly by government have the highest instructioal costs per student, while those institutes having boards of governors have the lowest costs. Table 13 provides the instructional costs per student in terms of 1969 dollars for each type of institution.

TABLE 13

Instructional Costs per Student in Terms of 1969 Dollars

Year	Universities	Public Colleges	Technical Inst.	Prov. Admin. Colleges	Vocational Centers
1969	$2316	$1814	$2540	$3492	$1945
1970	2253	1980	2584	2359	2209
1971	2346	2113	2537	3797	2279
1972	2318	1987	2312	3600	2159
1973	2186	2173	2342	3697	2029
1974	2129	2125	2515	3961	2548

Although it is probably surprising to the public, Public Colleges and Universities have instructional costs almost $400 per student lower than Technical Institutes and Vocational Centers and about $1800 lower per student than Provincially Administered Colleges.

As a Task Force member it was difficult to assess the degree of inadequacy in the data described above. It could be argued that costs for Technical, Vocational, and

Provincially Administered Colleges are under-estimated since some staff benefits,normally covered directly by Universities and Public Colleges, are covered by the Provincial government and are not accounted to institutional costs. It should also be noted that Provinically administered institutions have their utilities, maintenance and renovations costs covered by other government departments. Their tuition revenue however, goes directly to the Provincial Treasury. An additional inadequacy in the data is that some institutions such as Technical Institutions are very heavily involved in training apprentices who may attend the institute for only one or two months of a year. Such part-time students were not counted in estimating instructional costs. However, this latter program is also heavily subsidized by Federal funds.

Although it would have been desirable to have a more detailed breakdown of institutional costs, the necessary information was not available. Because the author is on staff at the University of Alberta, and because the University of Alberta does publish an annual report, additional information of costs was sought. Some interesting facts emerge which could have provided useful contrasts with other institutions had data from others been available.

1. Changes in Expenditures at the University of Alberta:

   a. Academic Salaries: In 1970-71 academic salaries took 51.9% of the operating budget, then increased to

53.3% in 1973-74, then decreased to 51.1% in 1977-78.

b. Non-Academic Salaries: In 1970-71, 24.3% of the operating budget went for non-academic salaries, and reached a peak of 28.2% in 1975-76, then declined in 1977-78.

c. Benefits: Staff benefits have increased from 4.3% in 1970-71 to 6.7% in 1977-78.

d. Utilities: Utilities have increased from 2.5% in 1970-71 to 5.0% in 1977-78, despite cost saving measures such as disconnecting 30% of the lights in many office areas.

e. Other Expenditures: Expenditures on such items as telephone, travel, equipment rental, supplies and sundries have decreased from 17.0% in 1970-71 to 10.1% in 1977-78.

At the University of Alberta, in 1977-78 total staff costs including benefits took 84.9% of the operating budget. Although there has been criticism that too much of the operating budget has been allocated to staff, it should be noted that only about 50% is for academic staff who are obligated to teach and do research. Furthermore, it is difficult to envisage a human-based system such as a university or a school system, not having the bulk of its expenditures allocated to people! One would expect that much higher percentages are allocated in other human-based activities such as engineering firms, medical services, and retail services.

In 1977-78 the academic salary schedule at the University of Alberta had the following minima and maxima: a) lecturer, $13,791 - $17,306; b) assistant professor, $17,625 - $22,513; c) associate professor $22,889 - $33,032; and d) full professor $30,134 to 39,554 in ten years, with further increases being awarded on the basis of merit. In seeking a comparison of these salaries with other groups, the salaries earned by Alberta professional engineers was used for which data was provided by a publication of APEGGA (the Association of Professional Engineers, Geologists and Geophysicists of Alberta).

Equating four years of academic training above a bachelor's degree, i.e., doctorate, to four years of engineering experience above a undergraduate degree, all academic salaries at both the lowest and highest decile of income where lower than engineering salaries with the exception of three points. The lowest decile group at the University of Alberta at 30 years of age or less exceeded the equivalent engineering group by about $1,000 per year, the lowest decile group at 45-49 years of age exceeded the equivalent engineering group by $1,700 per year, and the lowest paid group at age 60 or older exceeded the equivalent group in engineering by $6,000. In all other cases engineers' salaries exceeded those of University of Alberta academic staff.

Some people, including some academics, have suggested that the "real worth" of an academic can only be gauged by his ability to earn a living in the "real world", ie., not in the university. Frequently the advocates of this simplistic and naive test fail to realize the analogy with the "drowning test" for witches practiced in the middle ages. It is the opinion of the writer that the best academics, as well as non-academics, who are induced to leave, do become sufficiently successful that they are lost to the institution. In some cases those who have left do leave a marked deficit for an institution, while in other cases, it is of mutual benefit. Furthermore, the "real world" would be in the dark ages without sources of basic information provided by the efforts of scientists working in post-secondary institutions.

Recently, the National Science Foundation raised an alarm over the flight of computer specialists from universities to industry (Computerworld, July 2nd, 1979).

> "U.S. progress in computer technology may slow down because many of the nation's best computer scientists are leaving universities for jobs in industry......
> In addition to creating market areas for the computer industry and pointing users in the direction of new applications, academics also train the highly skilled professionals society demands".

This report does not disclaim the excellent research of industry, but points to the need to maintain specialists in the university in order to train students who eventually must replace people in the field. Once again reason is given that many segments of society, including industry benefit from the products of a post-secondary system. Factors which can cause specialists to leave include working conditions, salaries, capital equipment restrictions, and the perceived worth of one's contribution to society. The movement of our best professional instructors and researchers into the "real" world should be viewed with concern in terms of its long range effects upon society.

2.9 Institutional Program Costs

The Task Force was presented with little information on the costs of specific programs at various institutions. We did not learn, for example how much it costs to train an electronic technician at a technical institute. It must be recognized, however, that calculating costs for various programs is no simple task. Particularly in large institutions where such costs as library services, health and counselling services, computing and administrative services must be partitioned and allocated to specific programs.

The problem is made more complex in some institutions where programs of studies involve contributions from more than one department, e.g., university students in a teacher training program take courses from arts and sciences faculties.

For the years 1969-70 and 1970-71 the University of Alberta did atempt to assess various program costs. Costs for the 1970-71 year for selected programs are given below.

TABLE 14

Full-Time Undergraduate Student Total Program Costs
University of Alberta 1970-71

Program	1st year	4th year
Agriculture	$2,034	$7,730
Arts	1,845	2,237
Business and Commerce	1,553	1,737
Dentistry	4,242	8,088
Education	1,795	1,932
Engineering	2,099	4,428
Medicine	5,008	5,615
Science	1,795	2,964

Source: A study of Costs of University Programs, Office of Institutional Reserch and Planning, University of Alberta, 1971.

The total costs reported include instruction, direct and indirect research costs, administrative costs, and other source costs.

Two questions can now be considered: a) should tuition fees, and more generally student contributions be related to instructional costs, and b) can fees be fairly and accurately set as a function of such costs? The important rationale is that a consumer of a service should pay an amount commensurate to the cost of providing that service, a rationale frequently employed in the commercial world. If all instructional costs are allocated to the student, then it is implied that the student receives all the benefits. When a portion of costs are allocated to the student, it may be implied that society receives some benefits also. If such a rational was applied, widely differing fees would result, raising the question of social equity since students with lesser resources would find it more costly to enter certain programs. For example, using data of Table 14 tuition in Dentistry would be over four times that in Education, and tuition in fourth year Agriculture would almost be equal to that in Dentistry.

Serious complicatins would be introduced if fees were directly related to program costs for this would require a standard method for defining and allocating costs. Furthermore, it assumes that costs can be partitioned into independent components. Although such assessments have been made in industry, generally speaking, seldom does the raw material interact with the worker in a manner analogous to a student and teacher; usually raw materials do not have the almost infinite characteristics which require continuous adjustments to production. Of course institutions cannot accommodate an infinite variety of characteristics in students either, however the degree of adaptation must be considerably greater. Constraints in funding will reduce such adaptability.

If tuition were adjusted to reflect instructional costs per student, then the fees of Provincially Administered Colleges, Technical Institutes and Vocational Centers would be higher than University and Public Colleges. But students in Vocational Centers effectively pay no fees, perhaps interpretable by assuming that Voational Centers were set up as part of a social policy rather than an educational one.

This futher complicates the position of making fees directly related to instructional costs.

In the context of all the various types of institutions which fall under post-secondary education in Alberta, it is the opinion of this writer that it is not practical nor feasible to relate directly in an equitable manner the tuition fees to instructional costs.

Tuition fees can be an important resource for those institutions which must operate under their own jurisdiction, i.e., universities and public colleges with boards of governors. During the last few years, for the universities at least, the tuition fee has become an important factor in balancing a budget even though it may be only ten percent of the total operating costs, - a slim margin for any institution, private or public which must plan for its existence to transcend the life of a government to which it owes its existence. Some arguments have been presented which suggest that a sizeable tuition fee will lead to a better university in terms of quality and institutional autonomy. Examples of American institutions with high tuition and high quality have been cited in support of this argument.

High tuition and high quality do not necessarily go together. There is insufficient unconfounded evidence to support any specific position. An institution's quality is determined by the staff and facilities it has. In addition, there is probably a slight positive correlation between academic capability and socio-economic status. Thus, the problem is to some extent further confounded. Arguments of high fee and high quality have come at a time when the quality of institutions had already been set before any general movement to raise fees. For example, the land grant colleges of the American mid-west have traditionally had low tuition fees, and have generally grown to be respectable institutions.

The argument that tuition revenue provides an institution with a degree of autonomy which it would not otherwise have, does not necessarily follow. Because the amount of money from fees is small, and even though it provides a source of funds for overcoming budget short-falls, the size of tuition is not directly related to institutional autonomy. In the case of Alberta institutions, which have some degree of autonomy through the operation of boards of governors, their actions are clearly specified by legislation and acted upon by the Minister and his staff. Since the bulk of operating funds and capital comes from government, the autonomy provided by tuition fee is indeed very little. *Autonomy for institutions in Alberta can best be provided by legislating how the boards of governors are to be formed and operated, and the area of decision making available to the Minister responsible for post-secondary education.*

2.10 Enrollment

The argument has been presented that if tuition fees were lowered there would be a large influx of students to the various institutions. *If this is true then it would support the position that the level of tuition fee does affect accessibility of post-secondary education to students in lower socio-economic levels,* a position not fully accepted by the majority of the Task Force. It has been argued that the quality of the institution's program will suffer with increased enrollment, and that either the better students will seek other institutions to ensure quality, or that quotas would have to be instituted to ensure quality.

In the context of the arguments presented, it should be noted that quotas were placed on enrollment in various programs and by different types of institutions even though tuition costs had not been lowered. Quality is directly under the control of the institutions through admission policies and an examination system. Academic capability of the student may go up with a reduction in institutional resources because the institution may be forced to select the "best" students rather than those who are just likely to succeed. However, as the homogeneity of students' academic capability increase, it should be noted that it becomes very difficult to make justifiable selections. A poor institution in terms of program quality, will not necessarily draw students of high academic capability, regardless of the size of the tuition.

2.11 Public Opinion

Representation

A large number of different publics were not encountered during the hearings held by the Task Force. University students were better represented than other students perhaps because they, a) have had the largest share of tuition increases, b) contribute by far the largest amount towards the operational costs of the institutions they attend, c) are one of the largest group of students in the province, and d) have felt a greater impact from changes in government funding than other students. It may also be argued that the university student is more knowledgeable in the matters of government and task forces. There was a clear absence of technical school students and vocational students. Perhaps this can be interpreted as an indication that these students do not have any major concerns regarding costs.

Some students were quite vocal and clear in presenting their opinions. Others, particularly those who have had financial problems were reticent about raising their problems in public. The latter students tended to quietly approach members of the Task Force after public meetings.

Of those attending the meetings who were not students, it appeared that there were those who came because of a genuine interest in post-secondary education. Some seemed to be present in order to bring to the attention of the Task Force inequities they believe exist in the post-secondary system. There were a number of people who belonged to the business world, although one suspects that this representation was only from the small businesses and not from those businesses employing a large number of post-secondary graduates. It is the author's opinion that the Task Force did not hear from businesses in which future profits would be influenced most directly by today's post-secondary graduate.

Clearly, there was no concensus in the arguments presented by various publics during the hearings. Those students who did attend and who presented well deliberated positions, were representing other students. If one discounts this representation, which was claimed to be based upon an electoral procedure, then it seems one has to also discount the representativeness of other organizations including government itself, or alternatively, be prepared to identify specific inadequacies.

The writer believes that representation from the middle socio-economic levels was greater than from other economic levels because this group is most sensitive to changes in fees. The same reason may exist to explain representations from the business community, however, the latter may also have attended because they knew members of the Task Force.

It seemed clear that at many times during the hearings the public was very much at a loss for information concerning the post-secondary educational system. However, they were able to articulate the position that some amount of tuition fee should be paid by the university student. It was not always clear whether they had thought about students in other types of institutions.

Attitudes

The importance of the work ethic was voiced during most of the hearings as was the idea that post-secondary training should in some way be productive in the economic sense. The idea that student costs should be related to the costs of living was presented a number of times, however, since the major costs borne by the student are not tuition, and the other costs are in fact subject to free market fluctuation, the larger portion of student costs do escalate and reflect changes in the cost of living index. The members of the public were able to articulte the fact that institutional costs may not parallel the cost of living changes, e.g., some institutions are paying substantially increased utility costs. In the case of keeping tuition costs at a ratio of "one dollar to seven", it is doubtful that most of those people accepting this position realized that this could very substantially increase the proportion of tuition costs for all but university students.

Although public input is very important, since the public was so deficient on basic information, the value of the input must be guaged as useful only as a reflection of attitudes which would affect the degree to which recommendations of the Task Force would be accepted by them.

Parenthetically, the author wishes to note his disappointment with those members of the public who criticized students for their low commitment to public goals while at the same time displaying the results of an Hawaiian winter holiday. The author estimated that about $70 million is spent yearly on such holidays by Albertans in spite of the need for Canada to limit expenditures of foreign dollar reserves. Statistics Canada has reported an international travel account deficit of $1.269 billion for 1978, on spendings of $2.214 billion.

2.12 Political Factors

Some newspapers, and certainly some students, expressed the opinion that the Task Force did not have the serious support of the government as it approached its function of recommending levels of contribution by students to their post-secondary education. The author views these statements as ones of political reality. There are probably many commission reports which governments have turned down or buried so well that they have never seen the light of day. We would be behaving in a naive fashion to think that the government would not superimpose its own position if it seriously felt that the Task Force's report was contradictory to its philosophy and policies. Governments have the right to act in this manner. Given this position, the more important factor is the extent to which a reasoned position can be given which the government will at least consider, even if only to modify its own position.

2.13 Provincial Economy

Given the position taken earlier that society owes a continuing debt for the benefits gained by discoveries and advances made by people who have participated or used knowledge gained through post-secondary education, one can argue that a bouyant economy is an indicator of such benefits. For example, it is impossible to deny that basic theoretical principles of physics, chemistry, mathematics, mechanics, electricity and magnetism form a crucial basis for the discovery and refining of oil. These benefits are being reflected not only in economic terms, but also in human terms since an economy cannot yet operate without human resources. There are also some balancing forces in such a position. For example, if the production of coal contributes to a buoyant economy, there may be concomitant losses to the economy by a larger number of cases of respiratory diseases in mine workers. Knowledgeable people are required to handle such problems and they can only be trained by the post-secondary system. Thus, a bouyant economy should also provide resources to help solve some of the problems which come with that economy. Too frequently we assume that no price need be paid.

Of course there are some counter arguments. A buoyant economy provides the opportunity for students to earn more money than in a depressed economy. Since they earn more money, they should be able to pay higher fees. Such a position frequently introduces consideration of inflation costs and the application of the cost of living index. However, it was noted earlier that the largest component of the students' costs are very much subject to inflation. The positive effects of the bouyant economy are, of course, only applicable to those students who can find work. It should be noted that although students, like any other members of society, benefit from a bouyant economy through availability of jobs, their intermittent participation does not lead to the same level of benefits available to the more permanent members of the work force.

The following tables give the revenues and expenditures of the province of Alberta for three successive years beginning with 1975-76. The data has been taken from the Public Accounts.

Table 15. Provincial Revenues and Expenditures for 1976

REVENUES

	1976		
	Actual	Per Capita	Percentage of Revenue
Taxes:			
Individual income tax	$ 352,021,723	$ 193.74	10.58
Less: Renter assistance credits and royalty tax rebates and credits	(16,025,213)	(8.82)	(.48)
Corporation income tax	269,624,830	148.39	8.10
Less: Royalty tax rebates and credits	(8,460,736)	(4.66)	(.25)
Gasoline and fuel oil tax	82,511,615	45.41	2.48
Freehold reserves tax	54,071,097	29.76	1.62
Tobacco tax	15,840,560	8.72	.48
Pari-mutuel tax	4,367,625	2.40	.13
Other taxes	12,202,278	6.72	.36
	766,153,779	421.66	23.02

	1976		
	Actual	Per Capita	Percentage of Revenue
Non-Renewable Resource Revenues:			
Crude oil royalty	975,440,813	536.84	29.31
Natural gas and natural gas by-product royalties	519,136,311	285.71	15.60
Bonus and sale of petroleum and natural gas rights	141,000,565	77.60	4.24
Rentals and fees	57,088,929	31.42	1.71
Synthetic crude oil royalty and fees	19,926,992	10.96	.60
Coal royalty	887,640	.49	.03
Less: Exploratory drilling and geophysical incentive credits	(33,360,473)	(18.36)	(1.00)
	1,680,120,777	924.66	50.49
30% allocation to Alberta Heritage Savings Trust Fund	—	—	—
Less: Payable at March 31, 1977	—	—	—
	—	—	—
	1,680,120,777	924.66	50.49

	1976		
	Actual	Per Capita	Percentage of Revenue
Payments from the Government of Canada:			
Hospital insurance and diagnostic services	193,065,477	106.26	5.80
Canada Assistance Plan	89,837,995	49.44	2.70
Tax revenue guarantee payments	42,049,000	23.14	1.26
Post-secondary education	42,814,271	23.56	1.29
Public utility corporation income tax	16,538,072	9.10	.50
Energy resources research	—	—	—
Training of manpower	18,509,233	10.19	.55
Other	48,180,478	26.52	1.45
	450,994,526	248.21	13.55

Table 15. (Contd.)

	1976		
	Actual	Per Capita	Percentage of Revenue
Other Fees, Permits and Licenses:			
Motor vehicle revenue	37,558,980	20.67	1.13
Land Titles Act	9,678,446	5.32	.29
Timber rentals and fees	5,250,448	2.89	.16
Other	27,418,670	15.09	.82
	79,906,544	43.98	2.40
Utility and Trading Profits:			
Alberta Liquor Control Board	107,900,000	59.38	3.24
Other	7,198,441	3.96	.22
	115,098,441	63.34	3.46
Other:			
Revenue producing assets:			
Interest	124,334,087	68.43	3.73
Other	3,610,300	1.99	.11
Pension funds	74,595,122	41.05	2.24
Refunds of expenditure	20,894,957	11.50	.63
Fines and penalties	7,581,651	4.17	.23
Sale of assets	2,665,001	1.47	.08
Miscellaneous	1,978,744	1.09	.06
	235,659,862	129.70	7.08
Total revenue	3,327,933,929	1,831.55	100.00

EXPENDITURE

	1976		
	Actual	Per Capita	Percentage of Expenditure
Advanced Education and Manpower	289,850,036	159.52	10.65
Agriculture	78,300,894	43.09	2.88
Attorney General	28,017,775	15.42	1.03
Business Development and Tourism	14,881,330	8.19	.55
Consumer and Corporate Affairs	5,283,873	2.91	.19
Culture	13,369,244	7.36	.49
Education	460,041,573	253.19	16.91
Energy and Natural Resources	44,992,485	24.76	1.65
Environment	62,725,023	34.52	2.31
Executive Council	17,098,864	9.41	.63
Federal and Intergovernmental Affairs	1,700,884	.94	.06
Government Services	102,215,949	56.25	3.76
Hospitals and Medical Care	495,947,070	272.95	18.23
Housing and Public Works	97,221,135	53.51	3.57
Labour	15,257,053	8.40	.56
Legislation	6,767,230	3.72	.25
Municipal Affairs	70,898,811	39.02	2.61
Recreation, Parks and Wildlife	43,556,811	23.97	1.60
Social Services and Community Health	303,735,359	167.16	11.16
Solicitor General	59,099,011	32.53	2.17
Transportation	294,495,883	162.08	10.83
Treasury	111,544,260	61.39	4.10
Utilities and Telephones	103,750,249	57.10	3.81
Total expenditure	2,720,750,802	1,497.39	100.00
Budgetary surplus	$ 607,183,127	$ 334.16	

Population, estimated by Statistics Canada, 1,890,000 at April 1, 1977.

Table 16. Provincial Revenues and Expenditures for 1977 and 1978

REVENUE

	1978			1977		
	Actual	Per Capita	Percentage of Net Revenue	Actual	Per Capita	Percentage of Net Revenue
Taxes:						
Individual income tax	$ 599,730,698	$ 307.87	14.37%	$ 439,264,927	$ 232.42	13.62%
Less: Individual renter assistance credits and royalty tax rebates and credits, including administration fee	(26,083,767)	(13.39)	(.63)	(20,259,483)	(10.72)	(.63)
Corporation income tax	412,473,585	211.74	9.88	384,486,944	203.43	11.92
Less: Corporation royalty tax rebates and credits, including administration fee	(148,371,660)	(76.17)	(3.56)	(246,052,182)	(130.19)	(7.63)
Gasoline and fuel oil tax	99,210,973	50.93	2.38	90,287,062	47.77	2.80
Freehold reserves tax	76,452,316	39.25	1.83	76,310,971	40.38	2.37
Tobacco tax	18,721,847	9.61	.45	17,200,208	9.10	.53
Insurance corporation tax	16,269,028	8.35	.39	13,647,382	7.22	.42
Pari-mutuel tax	6,090,083	3.13	.15	5,328,321	2.82	.17
Other taxes	3,177,691	1.63	.08	2,869,001	1.52	.09
	1,057,670,794	542.95	25.34	763,083,151	403.75	23.66

	1978			1977		
	Actual	Per Capita	Percentage of Net Revenue	Actual	Per Capita	Percentage of Net Revenue
Non-Renewable Resource Revenues:						
Crude oil royalty	1,323,215,729	679.27	31.71	1,094,257,308	578.97	33.93
Natural gas and natural gas by-product royalties	980,780,524	503.48	23.50	721,706,814	381.86	22.38
Bonus and sale of petroleum and natural gas rights	736,147,487	377.90	17.64	207,839,032	109.97	6.44
Rentals and fees	68,990,926	35.42	1.65	61,567,748	32.58	1.91
Synthetic crude oil royalty and fees	28,928,987	14.85	.69	23,908,728	12.65	.74
Coal royalty	15,198,395	7.80	.36	6,794,463	3.59	.21
Less: Exploratory drilling and geophysical incentive credits	(75,160,106)	(38.58)	(1.80)	(49,243,398)	(26.05)	(1.53)
	3,078,101,942	1,580.14	73.75	2,066,830,695	1,093.57	64.08
Deduct:						
30% allocation to Alberta Heritage Savings Trust Fund	922,175,111	473.40	22.10	620,049,209	328.07	19.23
Excess (deficiency in) transfer to Trust Fund to be adjusted in subsequent year	26,066,863	13.38	.62	(3,729,620)	(1.97)	(.12)
	948,241,974	486.78	22.72	616,319,589	326.10	19.11
	2,129,859,968	1,093.36	51.03	1,450,511,106	767.47	44.97

Table 16. (Contd.)

	1978			1977		
	Actual	Per Capita	Percentage of Net Revenue	Actual	Per Capita	Percentage of Net Revenue
Payments from the Government of Canada:						
Hospital insurance and diagnostic services	162,974,423	83.66	3.90	230,865,990	122.15	7.16
Canada Assistance Plan	116,694,182	59.91	2.80	101,542,412	53.73	3.15
Tax revenue guarantee payments	66,254,000	34.01	1.59	73,263,000	38.76	2.27
Post-secondary education	60,771,999	31.20	1.46	39,002,643	20.64	1.21
Extended health care services	37,992,000	19.50	.91	—	—	—
Training of manpower	24,805,806	12.73	.59	21,482,173	11.37	.67
*Public utility companies income tax rebates	—	—	—	25,535,519	13.51	.79
†1974 crude oil pricing agreement	—	—	—	24,000,000	12.70	.74
Other	44,308,183	22.75	1.06	45,007,749	23.81	1.40
	513,800,593	263.76	12.31	560,699,486	296.67	17.39

	1978			1977		
	Actual	Per Capita	Percentage of Net Revenue	Actual	Per Capita	Percentage of Net Revenue
Other Fees, Permits and Licenses:						
Motor vehicle revenue	47,490,604	24.38	1.14	41,573,543	22.00	1.29
Land Titles Act	13,993,936	7.18	.33	12,615,926	6.67	.39
Timber rentals and fees	5,725,469	2.94	.14	4,877,860	2.58	.15
Other	39,133,908	20.09	.94	33,616,904	17.79	1.04
	106,343,917	54.59	2.55	92,684,233	49.04	2.87
Utility and Trading Profits:						
Alberta Liquor Control Board	125,800,000	64.58	3.02	115,700,000	61.22	3.59
Other	5,581,519	2.86	.13	6,339,840	3.35	.19
	131,381,519	67.44	3.15	122,039,840	64.57	3.78
Other:						
Revenue producing assets:						
Interest	91,162,222	46.80	2.18	124,196,412	65.71	3.85
Other	6,373,211	3.27	.15	2,952,434	1.56	.09
Pension funds	86,156,317	44.23	2.07	74,043,144	39.17	2.30
Refunds of expenditure	30,904,028	15.86	.74	22;001,234	11.64	.68
Fines and penalties	9,887,100	5.08	.24	8,199,607	4.34	.25
Sale of assets	5,653,322	2.90	.14	2,472,639	1.31	.08
Miscellaneous	4,256,262	2.19	.10	2,414,543	1.28	.08
	234,392,462	120.33	5.62	236,280,013	125.01	7.33
Total revenue	4,173,449,253	2,142.43	100.00	3,225,297,829	1,706.51	100.00

Table 16. (Contd.)

BUDGETARY EXPENDITURE

	1978			1977		
	Actual	Per Capita	Percentage of Budgetary Expenditure	Actual	Per Capita	Percentage of Budgetary Expenditure
Advanced Education and Manpower	349,728,174	179.53	10.30	303,393,244	160.53	10.39
Agriculture	58,733,400	30.15	1.73	95,171,810	50.35	3.26
Attorney General	43,754,906	22.46	1.29	36,659,816	19.40	1.25
Business Development and Tourism	16,734,448	8.59	.49	15,035,206	7.95	.51
Consumer and Corporate Affairs	7,295,809	3.75	.22	6,400,613	3.39	.22
Culture	18,348,498	9.42	.54	11,950,756	6.32	.41
Education	693,309,199	355.91	20.41	510,896,524	270.32	17.50
Energy and Natural Resources	64,308,803	33.01	1.89	50,372,223	26.65	1.72
Environment	51,312,320	26.34	1.51	48,695,850	25.75	1.67
Executive Council	20,128,425	10.33	.59	17,388,518	9.20	.60
Federal and Intergovernmental Affairs	2,298,547	1.18	.07	1,745,151	.92	.06
Government Services	75,179,283	38.59	2.21	66,471,631	35.17	2.28
Hospitals and Medical Care	621,354,316	318.97	18.29	553,348,600	292.78	18.95
Housing and Public Works	141,093,761	72.43	4.15	134,256,085	71.03	4.60
Labour	22,825,017	11.72	.67	20,033,919	10.60	.69
Legislation	8,002,247	4.11	.24	6,909,303	3.66	.24
Municipal Affairs	96,434,339	49.50	2.84	82,134,161	43.46	2.81
Recreation, Parks and Wildlife	57,449,867	29.49	1.69	42,082,216	22.27	1.44
Social Services and Community Health	401,223,332	205.97	11.81	357,544,169	189.18	12.24
Solicitor General	80,239,046	41.19	2.36	70,055,086	37.07	2.40
Transportation	309,650,091	158.96	9.12	263,996,997	139.68	9.04
Treasury	145,014,019	74.44	4.27	124,437,599	65.84	4.26
Utilities and Telephones	112,467,335	57.74	3.31	101,050,704	53.47	3.46
Total budgetary expenditure	3,396,885,182	1,743.78	100.00	2,920,030,181	1,544.99	100.00
Budgetary surplus	776,564,071	398.65		305,267,648	161.52	
Statutory expenditure	22,065,668	11.33		2,304,124	1.22	
Operating surplus	$ 754,498,403	$ 387.32		$ 302,963,524	$ 160.30	

Population, estimated by Statistics Canada, 1,948,000 at April 1, 1978 (1977: 1,890,000).

note there will be some xeroxed tables from the public accounts here Tables 15 and 16

The following points may be made with regard to these tables:

1. Individual income tax increased from $352 million to about $600 million, a per capita increase from $193 to $308. This represents an increase of 1.7 times. This revenue was off-set by renter and royalty rebates of approximately $16, $20, and $26 million.

2. In the last 3 years about $1.39 billion was collected through individual income taxes, $62 million was returned in rebates giving a net tax collection of about $870 million.

3. Corporation tax increased from $270 million to $439.2 million and then decreased to $412.5 million, providing a total 3 year collection of about $1.12 billion. Rebates for the same period included $8.5, $246, and $148 million for a total of $402.5 million. In addition special incentives were $33.3, $49.2, and $75.2 million for a total of $157.7 million. The net corporation tax for this period was about $560 million dollars.

4. Gasoline and fuel oil tax provided a total revenue of about $272 million. However, this tax has been removed.

5. Non-renewable resources have increased from $1.7 to $2.1 and then to $3.2 billion.

6. Federal contributions over the three year period were $1.52 billion. This amount was approximately one-half of that provided by non-renewable resources. Of this amount $207 million was for post-secondary educational activities.

7. Various fees profits, interest, etc., provided a relatively constant amount of about $450 million per year. Interest earnings dropped in 1978 from the previous year by $32.5 million.

8. Net operating surplus in 1978 was about $755 million, and about $303 million in 1977. This was a 2.5 fold increase.

The proper financial analysis of the provincial economy is beyond the scope of this paper. The information presented here is to give the reader some very general parameters of revenue and expenditures for the Province.

Major expenses for the three year period can be summarized as follows:

TABLE 17

Major Expenditures by the Provincial Government 1976-1978

Purpose	1976	1977	1978	Total
Hospital & Medical Care	$ 496*	$ 533	$ 621	$1,670
Education	460	511	693	1,664
Heritage Trust	-	616	948	1,564
Social Services	304	358	401	1,063
Advanced Education and Manpower	290	303	350	943
Transportation	294	264	310	868
Corp. Rebates & Incentives	303	295	223	821
Treasury	112	124	145	381
Housing & Public Works	97	134	141	372
Utilities and Telephones	104	101	112	317
Government Services	102	66	75	243

*In millions of dollars.

Largest expenditures over the last 3 years have been made for medical care, education, the Heritage Trust Fund, social services, advanced education and manpower, transportation, corporation rebates plus drilling incentives, each of which sum to over one-half billion dollars. Decreases in absolute expenses appeared for agriculture (1977-78), government services (1976-77), recreation (1976-77), transportation (1976-77), and utilities (1976-77).

An analysis of expenditures for the post-secondary education system for the period 1969 to 1977 was attempted by the author, but it was found that except for the last three years, it was impossible to track expenditures from year to year. Public accounts since 1976 have an improved organization of data allowing the comparison of adjacent years.

Clearly the government makes its largest expenditures for supporting services directly related to the well-being of its people, i.e., medical services, social services, and basic education. In addition, the government has provided substantial encouragement to corporations in the amount of approximately one-half billion dollars in rebates and drilling incentives, increased its operating surplus almost 2.5 times between 1977 and 1978, and established substantial funds in a Heritage Trust account. During the same time the removal of the tax on gasoline sales reduced provincial income by approximately $90 million dollars per year. It would seem obvious that any restriction to funding increases for post-secondary education cannot be attributed to lack of funds, but rather to government's right to effect its politically based policies as it sees fit.

Although increases in expenditures for post-secondary education between 1977-78 were about $46 million, the effect of this increase must be judged in terms of its distribution to various institutions, the rate of inflation, and the effects of any previous fiscal restraint policies. A number of small but successive restraints eventually can precipitate a crisis in a given year even when budget increases are given. Figure 4 depicting operating grants would suggest that the Universities are most susceptible to such phenomenon.

Since the Task Force recommended an increase in fees of approximately $40 ($550-$590) for universities, $110 ($275-$385) for colleges, (without distinguishing among different types of colleges), and a $285 increase ($180-$385) for technical schools, a rough estimate can be made of the cost of such increases to students. Using enrollment estimates based on 1977 data, tuition fee increases would bring the universities about $1.3 million, the public colleges about $0.9 million, and since the government gets the tuition fees of technical schools and other colleges, it would obtain a revenue of about $2.6 million.

In the light of the budget information documented by the Public Accounts, clearly the need to increase fees must be motivated by factors other than financial need of the Province. The funds generated would be less than 5% of that brought in by the gasoline tax (had it been retained), about 0.6% of the 1978 operating surplus, and less than 3.3% of the rebates made to corporations.

Although some may dislike the inclusion of corporation tax rebates and incentives as a government expense, the reader should note that the effective tax rate of many corporations, after deferred taxes are accounted as taxes not paid, is only about 26%. Eric Kierens noted in 1976 (Kierens, 1976), that in Canada corporation profits increased from $7.7 billion in 1970 to $17.8 billion in 1975, while the effective federal tax rate decreased from 29.6% to 26.6%. For example, the 1978 Home Oil Annual Report to Shareholders indicated an effective tax rate of 18.0% on net earnings of $43.9 million with deferred income taxes accumulating to $97.8 million. In obtaining clarification of deferred taxes, the author sought further information from the Provincial Auditor's Department. The resulting information was as follows:

1. taxes are deferred whenever timing differences exist between accounting income and taxable income
2. taxes may be deferred as long as timing differences exist
3. deferred taxes do not actually represent funds available for use or committed to liabilities, therefore no restriction on use is required

In seeking further understanding the author wrote Alberta Energy Company seeking a corporate point of view concerning use of funds and length of time taxes may be deferred. The answers were as follows:

1. funds which would otherwise be used to pay income taxes simply remain in the corporate treasury. They are either invested or used to pay current obligations of the company.

2. There is no specific time period for taxes to be deferred. The ability of a company to defer taxes is solely a function of its ability to avail itself of taxation write-offs which exceed taxable revenues of the company.

It would seem to the author that a descrepancy exists between the information provided. Nevertheless, most readers would dearly love to pay 18% tax on net earnings.

2.14 Manpower Needs

The rationale for determining tuition costs as a function of manpower needs is that as the need for various types of manpower increased or decreased so would accessibility. The following problems are associated with this rationale:

1. It is difficult to specify for most occupations and professions whether a special manpower need will exist in the future. Even though applications of models such as the Cofor model have been made, little evidence of its effectiveness exists. In the light of Gilpin's criticism of traditional economists forgetting about the contribution of an educated work force capable of using the results of science, the basis of the model can also be questioned.

2. How does one determine manpower needs? The need to meet manpower requirements for millwrights may be easily determined by industrial and, or economic demand, but there is also a manpower need to solve the cancer problem. In both cases the needs are easily identified and can be directly or indirectly related to economics. Today, a market demand for millwrights can be well articulated by the industrial sector, while those who could best articulate the second demand are dead from cancer. In the case of millwrights we know reasonably well how to train them, and what they should learn, and

their employment is assured. In the second case we are able to define less well what skills should be learned, e.g., cellular biology, biochemistry, molecular chemistry, medicine, physics, and there may be little chance of employment. Clearly, the effectiveness of market demand may depend upon who does the demanding!

3. What is the responsiveness of the various post-secondary institutions to anticipated manpower needs? Can, for example, the system produce the manpower needed to meet demands by some specified date?

4. If the graphs relating costs, socio-economic level, and enrollment are reasonable, lowered costs brought about only for technical training by the need to meet a manpower demand will first affect the lower socio-economic levels. This could be viewed by some as a way of ensuring that students from lower socio-economic classes fill the traditional non-professional jobs.

5. If manpower needs can be met by decreasing tuition costs, then one must also accept that enrollment is elastic with respect to costs, lending more credibility to the curves plotted earlier.

There seems evidence to suggest that the rationale of relating costs to manpower requirements has already been in effect for sometime in the technical schools of the province. Technical students have lower tuition costs, and in cases of apprenticeship students, they can draw upon subsidies from [illegible]her Canada Manpower or the Alberta Vocational Training plan. At other institutional levels, such a rationale does not exist at the present. However, one might interprete the bursary plan of twenty years ago to encourage the training of teachers as having followed this rationale.

It would seem difficult to introduce the manpower rationale into institutions which operate with boards of governors who are responsible for establishing tuition fees.

Adjusting fees to encourage the movement of students into certain career areas can be more easily effected when the institution is under direct provincial control. Thus, for autonomous institutions, accessibility is more easily provided through a bursary or special grants program.

Although one might be able to predict or identify manpower needs at one occupational level, it does not necessarily follow that the same degree of predictive efficiency can be applied to all levels. For example, manpower requirements would suggest that the need for molecular biologists may be almost non-existent. However, if this even potentially excludes the further understanding of the RNA and DNA molecules, then society would face serious losses. On the other hand, it seems reasonable for government to encourage the training of millwrights for their task is well defined, and their training period considerably less than that of a molecular biologist.

Encouraging the directions in which students will move by increasing accessibility can be accomplished in two ways. One way would be to provide the incentive directly to students such as through bursaries, the other method would be to make such funds available to institutions. The latter may imply differential tuitions for programs within institutions, and for those institutions being relatively autonomous, it would raise the problem of being forced to follow directions which may not be in their interests because such programs might later become a fixed cost detracting from more constant types of educational programs, e.g. teaching English.

A major problem exists in this area because of the legitimate aspirations of government and institutions. Grants to students encourage students to move into a career area because they provide a direct reinforcement. Such reinforcement will, however, cause increased enrollments in certain types of institutions and programs which will require additional resources or a combination of resources and operating changes to accommodate the new influx. An inherent problem with this approach is that some institutions take considerably longer to staff-up to handle increased demands, and to "staff-down" when the demand has been satisfied. This can be a costly procedure involving not only disruption of fiscal resources but also human resources.

Using bursaries or special grants to increase accessibility will lead to statements about the value system of the agency providing the grants. For example, if for special industrial projects, grants are provided in anticipation of the need of technically trained people in function "A", the question will be asked why accountants or dentists do not have a similar reduction in costs, not because there may be a great need for them, but simply to indicate that they are also a valuable asset to society. The reply cannot be a simple one, for in the first case benefits may be more immediate than in the second case. A reply reminding the questioners that the choice was their's may be an answer, but it does not necessarily provide for a satisfying answer. The problem is also complicated by the fact that the professional training may already be heavily subsidized even though the subsidy may not appear to be directly in the hands of the student.

It is the author's opinion that it is obligatory that government must rationalize to all its publics the basis for attempting to direct career choices of its citizens through financial encouragements. Government and institutions must cooperatively understand the short and long range implications of such policies .

3. Student Assistance

Any program of financial assistance should be supported by a rationalization of its primary purposes. For example, if a very high value is placed on social equity and accessibility, then a program of grants and stipends such as available in Australia might be in order. On the other hand if very high value is placed on the rationale that only an individual benefits from an education then the "user pay" concept would be in order. It is the opinion of this writer that no clear purpose or rationale exists for Alberta's student loan and grants program. The participation rate of Alberta students in obtaining loans is not as great as the public might think. The report entitled Some Characteristics of Post-Secondary Students in Canada prepared for the Department of the Secretary of State reported that 53.5% of Albertan students did not borrow funds for their education. This percentage is only exceeded by Manitoba and British Columbia. However, Table 18 would indicate that in the period 1973-74 to 1977-78 Albertan students have amassed a debt of approximately $97.6 million.

In 1970 the Students Loan Guarantee Act was enacted. This legislation allowed the establishment of a set of regulations which allowed students to borrow money from private lending institutions. The liability of the Province in respect of such loans was not to exceed $35 million and may be less as established by the Lieutenant Governor in

Council. A penalty on anyone (parent or student), of $1000 is established by the Act for making false statements in connection with obtaining access to provisions of the Act. The Act allows a student to borrow money from a private lending institution with the Province guaranteeing the loan and covering interest costs while the student is studying.

In 1976, the Students Finance Act was enacted. This Act established the Students Finance Board and provides for loans, grants, bursaries, prizes, scholarships, allowances or remissions of loans to students. The Board consists of not more than seven persons, with the Minister of Advanced Education and Manpower naming the chairman. The Board is required to submit to the Minister a report of its activities each fiscal year, and the report must be submitted to the House. Under this Act a Student Loan Fund is established by the Treasurer to which loan repayments are credited, while the interest on such loans are specified to General Revenues. Thus, under this Act loans can be made to students, portions or all of a loan may be written off, either against loans under the Act, the Students Loan Guarantee, or federally sponsored loans established under the Canada Student Loans Act. The Act allows students to obtain loans for attending almost any post-secondary institution in or out of the Province, as well as any secondary school. Regulations are established through the Lieutenant Governor in Council and include such things as qualifications, residence requirements, terms of repayment and write-offs, and interest rates. Any person providing false information for purposes of this Act may be fined a maximum of $1000 during a 3 year period following the commission of a falsification.

Information concerning financial assistance is provided through a booklet entitled "A Directory of Financial Assistance for the Education and Training of Albertans". The following regulations can be identified in this publication:

1. ..the student assistance program gives assistance based on financial need ..assistance is to supplement personal or family resources ..guaranteed loans are available through Provincial and Federal programs ..loans are interest free to the student until 6 months after graduation after which time an interest rate and conditions for repayment is established by the loaning institution. The interest is covered by the governments under which the loan is approved during the time the student is in study. ..medical and law students may apply to the lending institution for an additional 9 months deferment of principle payments but must accept interest charges for this period. ..if an educational program is not available in the Province, loans may still be obtained ..eligibility includes parents residing in the Province for students dependent on their parents, and a 12 month residency if not dependent on parents; one year residency is required for a federally sponsored loan, while students holding visas are not eligible for assistance.

2. ..a student is considered independent for Provincial purposes if he or she is married, has a dependent child, or has a combination of 3 years in the work force including attendance at a post-secondary institution. (Presumably, anyone not meeting these conditions is dependent upon parents, which is not necessarily so).

3. ..parents are expected to contribute according to an established rate of support dependent upon family income and number of children. Similarly, the contribution of a spouse is defined.

4. ..except for noting the maximum amount for a federally sponsored loan, and a maximum amount of $4300 for an independent student, the booklet does not note the amount which can be borrowed by others.

5. ..only loans are available for students while attending an institution

6. ..remissions are specified in the following manner: "Regulations allow the Board to pay to your credit institution on your behalf a maximum of 50% of what you were required to borrow the first year, 40% for the second year, and 25% for the third year. Thus the Board may remit or write-off a portion of the students loan providing the Board is satisfied the student and parent have made a reasonable contribution and that the student made a 'serious effort' in academic study.

The student is required to complete a form detailing an educational history, a budget, and to declare income and assets. The head of the household or spouse must declare the number of dependent children and relatives as well as gross income, income tax paid, family allowances received, net business income, investments and other income, and capital cost depreciation as declared on the last income tax form. Both head and spouse are required to sign the statement as true and agreeing to authorize the release of their last federal income tax return.

As a member of the Task Force, the author requested frequency cross tabulations for 1977 representing the amounts students had asked for in loans, the amount of the loan approved, and the amount remitted. This very basic information was not available in a form which would allow an estimation of how well individual students fared.

Information not presented in the brochure, but made available to the Task Force indicated the following:

1. ..a maximum of $1800 with an overall lifetime maximum of $9800 can be approved under the federal plan, and the student may have up to ten years to repay

2. ..under the Alberta Plan the maximum is $2500 per loan year, to a maximum of $10,000. Students have ten years to repay the loan.

3. ..residency qualifications require parents to reside in Alberta if the student has less than three years of combined work and educational experience beyond high school. If the student has more than three years of experience then he or she must have spent the 12 months in the province but not as a post-secondary student.

3.1 Implementation of Student Aid

In order to assess the nature of how student aid has operated in practise, information was provided to the Task Force through reports prepared by staff of the Department of Advanced Education and Manpower, one meeting of the Task Force with the Director and some members of the Board, and by members of the public at public hearings. The author sought additional information from the Board Annual Reports.

The public appeared to show a number of misconceptions concerning student aid. The most frequent misconceptions were as follows:

1. Provincial government funds are loaned to students.

   **The bulk of the funds are loaned to students by private lending institutions and guaranteed by the Provincial government or the Federal government.

2. Students obtain a remission of a loan at 50%,40%, and 25% rates for successive years beginning with the first year.

   **These are maximum rates only applicable to that portion of a loan from which has been subtracted the expected contribution which a parent should have made but did not contribute. A similar subtraction would be made for monies the Board expected a student to save, but did not. No evidence is available to determine the actual rate of remission. Remissions are not made automatically to students even if they qualify. Students must apply for remissions. Furthermore, application for remission can only be made upon completition or termination of a program of study, thus the student does not know until borrowings are completed how much he or she will actually owe the lending institution.

3. Students can upon request obtain the maximum loan amounts.

   **The amount loaned is that portion of the need remaining after the student's and parent's contribution is accounted. If the parent's contribution is below expectation as determined by the Board, the additional requirement may be approved as part of the guaranteed loan but it does not become part of a potential remission.

4. A student is in an independent status if he has not, or does not reside with a parent or guardian.

   **This is a source of considerable problem for some students. A student is considered dependent if he or she is not married, has no dependent children, and does not have a combination of work force and post-secondary education experience summing to three years. Thus, a student who has left home, was "kicked out", or did not want parents to contribute, would still be classed dependent and a parental contribution would be expected.

5. The Provincial government guarantees the major portion of student loans.

   **Not so. The Federal government has guaranteed from 2 to 5 times more money than the Province of Alberta. The basis of this policy seems to be "let the Feds" be liable for as much money as possible so they will pick up the largest amount of any defaulted loans.

Table 18

Financial Activity of Student Finance Board

Nature	1973/74	1974/75	1975/76	1976/77	1977/78
Guaranteed Loans	$ 6,133,858	$ 4,220,148	$ 3,492,819	$ 4,627,607	$ 5,951,648
N	9,173	7,605	6,007	7,020	7,700
Federal Gov. Loans	$15,488,993	16,204,286	18,575,213	19,156,312	17,982,572
N	15,491	15,901	15,571	15,139	14,154
Remission Expended	?	?	1,841,674	2,419,204	3,971,782
N	?	?	?		
Matric. Scholarship	109,310	112,500	192,850	195,000	189,000
N	1,094	1,125	1,308	1,300	1,266
Graduate Scholarship	218,539	262,834	364,750	385,990	450,471
N	77	73	91	86	101
Jr. and Sr. High School	106,105	102,640	164,520	208,382	199,505
N	1041	763	873	1,000	1,071

TABLE 19

Average Amounts Alberta & Federal Guaranteed Loans

Source	1973/74	1974/75	1975/76	1976/77	1977/78
Alberta	$ 669	$ 555	$ 581	$ 659	$ 708
Federal	1,000	1,019	1,193	1,265	1,270

The nature of the student finance plan is quite extensive ranging from loans to students in almost all post-secondary institutions, to support of students in junior and senior high school. It is impossible to ascertain from Table 18 the actual number of students who have received loans guaranteed by Provincial and Federal governments because a student could be counted once under both plans. Although maximum loans are $2500 under the Alberta plan and $1800 under the Federal plan, clearly the data indicate that loans are considerably below these amounts. Only further information, such as a frequency distribution, would clarify how many loans approached maximum.

The number of students obtaining loans guaranteed by the Province decreased from 1973/74 to 1976/77, while those obtaining federal guranteed loans remained relatively stable until 1977/78 at which time the number decreased. The average loan guarantees made under Federal support is consistently above that of the Province.

A distinction is required between remissions anticipated and remissions actually made. In a report to the Task Force (Information Paper IV, Student Assistance, p48) "12,222 students received remissions totalling $5,730,454 for the year as of June 12, 1978 ", and this amount is also referenced in the Board's 1978 Annual Report. However, the actual remission payments were only $3,967,669 to March 31st, 1978. Interest payments made by the Province on loans made to students by commercial lending institutions were $716,872, $644,497, and $724,276 for 1975/76, 1976/77, and 1977/78 respectively.

An attempt to ascertain the extent of loan default by students was made by examining both annual reports of the Board and the Public Accounts. The 1978 Annual Report indicates bank claims of $1,153,850, $1,429,361, and $958,701 for the years 1975/76, 1976/77, and 1977/78 were paid. However, this could not be verified by the Public Accounts. An estimate of the percentage of defaults could not be accurately calculated since bank claims paid would have to be judged against the total loans accumulated to the time claims were paid. In addition no break down of the defaults was possible from the data available.

It is the opinion of the author that financial operations and statistics concerning student loans should be more meaningfully documented by the Board.

3.2 Calculation of Loan Amounts

Loan amounts are calculated by using the following factors(1978):

1. the greater of the student's actual savings or minimum savings expected by the Board
2. parental contribution expected for dependent students
3. spouse's contribution at a rate of net income less $100 per month except when the spouse cannot work, or for medical reasons, a pregnancy, or if there is a child under 2 years of age.
4. part-time employment earnings (less $75 per month)
5. scholarships (total value less than $300)
6. tuition, books, supplies and instruments
7. living costs (1978/79)
   a. single at home $215 per month
   b. single away from home $340
   c. married couple $660
   d. each child $100 (recently the Board has advocated $30 per child aged under 12 years with a single parent)
   e. single parent $600
   f. travel costs
   g. other conditions approved by the Board

Students are allowed to obtain guaranteed loans equal to the excess of their costs over the resources expected to be contributed as assessed by the Board.

All provinces do not have a student assistance plan similar to Alberta's. In New Brunswick (1974-75) a student could obtain a maximum of $2100, of which the first $1400 is a loan under the Federal plan, and the balance as a bursary by the Province of New Brunswick. In Ontario, the first $800 is provided as a loan under the Federal plan, while the balance is provided as a grant by the Province of Ontario. It should be noted that in Alberta all funds are initially provided by loans, and remissions which may be considered grants, are not determined by the Student Finance Board until a program is completed or terminated, and then the remission must be applied for.

3.3 Loan Guarantees Approved by Program of Study

The Task Force received information only for the year 1977/78 which allows a breakdown by type of program.

Table 20

Loan Guarantees Approved by Program

Program	Alberta No.	Alberta Amount	Alberta Ave.	Federal No.	Federal Amount	Federal Ave.
University	4138	$2,899,761	$ 701	6857	$ 8,828,400	$1,288
Univ. Grad.	316	301,635	958	418	617,135	$1,476
Vocational	970	687,975	709	1980	2,665,415	$1,346
Commercial	88	71,585	813	112	152,170	$1,359
Adult High School	197	70,050	356	24	29,490	$1,229
Agric. & Voc.	46	22,900	498	122	154,130	$1,236
Colleges	876	597,435	682	1751	2,297,720	$1,312
Hospitals	67	44,590	666	219	246,115	$1,124
Out of Prov.	604	672,460	1,113	1572	2,338,895	$1,488
Total	7302	$5,369,391	735	13055	$17,329,470	$1,327

The largest average loans in 1977/78 were made by students taking programs out of the Province. The most frequent location of such programs were University of Saskatchewan (160), University of British Columbia (141), and Brigham Young University (105) in Provo, Utah. Most frequent foreign institutions attended, after Brigham Young, were the Palmer Chiropractic College, Iowa (34), Ricks College, Idaho (33), Dordt College, Iowa (33), University of Wyoming (31), Calvin College, Michigan (19), with a host of other institutions having one or two Albertan students. Approximately 1947 students were permitted to take out guaranteed loans to support their studies outside of Alberta.

3.4 Parental Contributions

The Student Finance Board expects parental contributions toward the support of a student and calculates the support as a percentage of "net effective income." Net effective income is determined by subtracting from gross income the following: income tax, medical premiums and reported uninsurable medical and dental costs, a spouse's expenses to engage in work, an allowance for retirement, dependents over 21 years of age, dependents and day care costs depending upon the age of the child. The rate of contribution by parents as determined by the Student Finance Board has varied as indicated in Table 21.

Table 21

Expected Parental Contribution

Net Effective Income	1974	%	1975	%	1976	%	1977	%	1978	%
5.9 -6.0*	$ 464	7.7	-	-		-	-			
8.9 -9.0	1311	14.6	$1119	12.4	$ 993	11.0	$ 952	10.6	-	
9.9-10.0	1631	16.3	1395	14.0	1223	12.3	1176	11.8	-	
13.9-14.0	3311	23.6	2899	20.7	2593	18.5	2472	17.7	$1954	14.0
17.9-18.0	5631	31.3	5064	28.1	4593	25.5	4408	24.5	2834	15.7
19.9-20.0	7031	35.2	6380	31.9	5833	29.2	5616	28.1	3274	16.4

*in thousand dollars

Source: Information Paper IV; Student Assistance, AEM, 1978.

Table 21 indicates that in 1974/75 a family having a net effective income of between $9,900 and $10,000 was expected to contribute $1395 or 14% of that income in support of a child attending a post-secondary institution. In 1977, for the income category $19,900 to $20,000, $5616 or 28.1% was expected.

Using the basic table from which Table 21 was obtained, marginal percentage contribution rates were calculated, i.e., for each $1000 increase of net effective income, the percentage of additional contribution was calculated. The question asked was what percentage would a parent be expected to contribute for each additional $1000 of net effective income earned?

It was found that for 1974/75, using income categories $8901-$10,000, $13901-$15,000, and $18,901-$20,000, the corresponding marginal rates were 27.6%, 47.6%, and 67.8%; for 1976/77 they were 30.0%, 42.4%, and 62.4%; in 1978/79 they were a constant 22%. Thus, in 1974-75, of a $1000 increase in net effective income at the $13,900 level, the Student Finance Board expected 47.6% of that increase to be contributed to support of the student. Similarly, in 1977/78 for an increase of $1000 in the range of $19,000, 62.4% was expected. Clearly, these rates are considerable and higher than the federal income tax rate. For some reason, a marked change in these rates to a constant 22% was instituted for

1978/79. The author as a member of the Task Force did request clarification of the policy which brought about such an important change, but no information resulted.

3.5 Public Comments

In general the public was not fully aware of all aspects of how loans are handled by the Student Finance Board. Some parents expressed their reservations concerning the Board's estimation of parental contributions and request for access to their personal income tax forms. (Parenthetically, the author wonders whether some corporations are required to do the same in order to obtain drilling incentives as noted in the Public Accounts). Students openly complained of the definition of a dependent and independent status noting that a student who had left home, by mutual agreement with parents or otherwise, had great difficulty obtaining a loan. Instances were related where a student had to acquire a notarized statement from parents that they had effectively "disowned" their child before action on a loan was taken by the Board. A small group of students did not express their financial problems openly to the public, perhaps wishing to preserve their dignity concerning personal financial problems. The author was approached by one student who was required to drop out of university because of financial problems brought about by the Board's refusal to allow foster parents to be excused from their expected contribution at the wishes of the student. In this instance it was explained that the student's real parents had both been killed when she was a child and a sister of the mother took the responsibility for raising the student. The student felt her foster parent's obligation to her had been discharged by raising her and that she could not ask them to make a contribution toward her post-secondary education.

3.6 The U.S. Plan

The majority of the Task Force was impressed by the U.S. Silber Plan which is reflected in Bill H.R. 12268 and presented to the U.S. Congress on April 20, 1978, to warrant recommending that the Provincial government investigate its financial aspects. As noted earlier, it is the author's opinion that the rationale behind this type of plan assumes that society receives little benefit from a student's education, and that the major benefactor is the student. The following points concerning bill H.R. 12268 should be noted:

1. "The purpose of the bill is to amend Title IV of the Higher Education Act of 1965 to establish a system of student tuition advances to be repaid as an income tax imposed by the Internal Revenue Code of 1954 ......" Thus, the purpose is to make loans available to students, and to collect such monies owing through the income tax system of the United States.

2. Funds to establish a pool of monies from which borrowings would be made are required. This pool is not to exceed $4.5 billion dollars. Such a fund amount is to be adjusted for inflation.

3. Eligibility would be as follows:

    a. the student must not have completed an undergraduate education, and must be 35 years of age or younger

    b. the student must be enrolled in an eligible institution and have successfully completed the first year of his study, and must be carrying at least one-half the normal academic load.

4. The maximum amount of a loan is $5000 per year adjusted for inflation, and total monies loaned must not exceed $15,000. The loan is made without security and endorsement, payable to the institution at which the student is in attendance. The institution is responsible for taking tuition costs from this advance, and being being statisfied that the remainder will be used by the student for non-tuition portion of his or her education.

5. A surcharge of 50% is added to the amount borrowed which becomes the principal owing. Repayments are to begin the first calendar year after the student ceases to be a student, and continues until the borrower is aged 65 years, or until the loan is repaid. Repayment is to be made at 2% per year, except by those having incomes less than $5,000. (The author does not know whether under U.S. internal revenue laws, taxes are taken from an estate. If so, than the loan may be repaid by the estate of a deceased.)

6. In order to prevent misuses of funds, perhaps by unscrupulous institutions, certain restrictions are placed on the eligible institutions. Eligible institutions must not increase their enrollments by more than 2% per year or more than 10% "in all the academic years beginning after" the act is enacted, nor impose "excess charges" in an attempt to capture more funds from the student.

7. Gross income calculations are defined in the Act for situations where both husband and wife owe funds, and for the situation when only one owes. In the latter case funds owed are to be paid back but gross income is defined as the greater of gross income of the individual filing the return or an amount of the husband's and wife's income.

8. Reference is made to the Bankruptcy Act of the United States, and without a study of this Act it is not possible to state precisely what conditions are being imposed. Presumably, bankruptcy would not be allowed to avoid paying back a loan.

9. Penalities of the income tax act are imposed for

non-payment.

It is difficult for the author to understand why the majority of the Task Force felt sufficiently supportive of the plan in the light of the Task Force's statement:

> The Task Force recognizes the integrated value of post-secondary education to both society and to individuals and contends that individual benefits accrue primarily for a lifetime, whereas society tends to benefit in perpetuity from an educated population.

By imposing a 50% surcharge on a loan, and allowing repayment of the loan for essentially what turns out to be the rest of one's life, is hardly to be considered a recognition of society benefitting in perpetuity, except perhaps in the financial sense as a money lender.

In addition to disagreeing with the basic philosophy behind the plan, the author notes the following problems associated with such a plan:

1. Students over 35 years of age cannot participate yet trends indicate that as the population becomes older, more such students will participate in the post-secondary system.
2. The plan excludes students beginning their first year.
3. Students particularly from lower socio-economic status homes are reluctant to take on loans, let one that has a 50% surcharge added to it.
4. In the long run, this plan essentially places a tax on the participant in addition to the regular income tax.
5. The plan world require the imposition of travel restrictions outside of the country in order to ensure payments are made by citizens residing in other

countries. (The majority of the Task Force saw no problem in negotiating reciprocal agreements with other countries on this matter, while the author saw almost insurmountable problems).

6. One escape from debt and taxation has traditionally been to leave one's country. It would be most unfortunate for any country to have its best trained people leave. (The author noted to the Task Force that the Russian's have developed a solution for this problem as evidenced in the repayment of funds spent on education requested of Jewish citizens wishing to emigrate to Israel. Needless to say the Task Force did not like this solution).
7. The plan develops the need for an additional level of bureaucracy for government which has to monitor the institutions, and for the institutions which have to implement the plan.
8. In the case of a female who becomes a housewife, a negative dowry results. A couple could start out with a maximum debt of about $45,000 upon completition of post-secondary education.
9. The poorer students must take on the largest debts.

Perhaps the problems with the U.S. plan noted above are reasons why the proposed legislation has not been enacted by the U.S. Congress. A similar plan proposed by Cook and Stager, and reported by Porter, Porter, and Blishen (1973), was recommended to the Ontario government in 1969. The Province of Ontario has also not acted on such a recommendation.

3.7 Student Aid in Australia

The Task Force did obtain information on student aid provided post-secondary students in Australia. No detailed information was available regarding student aid in other countries. In general, student aid in Australia is available on a non-competitive basis, without age restrictions, but with a means test on family income. Assistance is available to students at universities, colleges, technical institutes, and other approved institutions, e.g., secretarial school, arts, and agricultural schools. The system has been legislated by the federal government and not individual states. Assistance is available for Australian citizens and permanent residents, as well as to those who have been granted entry permits or who have applied and are likely to be granted permanent resident status. Students who have signed training agreements with an employer are not eligible. There are some restrictions on elgibility associated with different types of awards which the student may have obtained.

The Tertiary Education Assistance Scheme may include living allowances, incidental allowance, allowance for dependent spouse and or child, and a fares allowance. All benefits are subject to a means test, and the student must be entitled to a living allowance in order to receive other benefits.

The means test involves taking the gross family income (husband and wife) and subtracting expenses incurred for earning income as allowed by income tax definition, less $450 for each child under 16 years of age, or a dependent up to age 25 who is attending a post-secondary institution. If the result is less than $8700 (Australian dollars in all cases) the student living allowance is $1250 if at home, and $2075 if away from home. If the result is above $8700, then the allowance is reduced by $2.50 for every $10 of income above $8700. If there are no other children in post-secondary institutions, the maximum family income before no allowance is available is $13,509 when a student lives at home, and $16,809 when the student lives away from home while going to school. If there are other children attending post-secondary schools, the limits are $18,309 and $24,909 when one additional child attends, and $23,109 and $33,009 if two children are attending. The income of the student is also taken into account. The allowance is reduced one dollar for every two dollars of income above $1500. An additional incidental cost allowance of $100 is also available to cover institutional charges. A fine of $100 is imposed for making a false declaration on an application for living allowance. It should be noted that Australian institutions have no tuition fees.

Student fees for amenities and services at the University of Western Australia are between $54 for 4th-6th year medical students and 3rd-5th year dentistry students, to $75 for law students.

3.7.1 Participation Rate in Australia

Extensive tables were made available to the Task Force by the Australian Department of Education. These tables provided a more detailed breakdown of participation rates than data provided by the Alberta Student Finance Board. The following information represents only a small portion of the data which was available.

1. In 1977, 94,120 students obtained living allowances under the Tertiary Education Assistance Scheme.
2. Of the 94,120 students, 45% were university students, 36% were college students, 15% were technical students, and 4% were at other types of instituions.
3. Of all those assisted, 40% were living at home, 25% were living away from home, and 35% were considered to be independent students.
4. 62% of those assisted received maximum allowances.
5. 51% of those assisted were males.
6. Of those living at home, 48% received maximum allowances ($1201-$1301), of those away from home 54% received maximum allowances ($1901-$2000), and of the independent students 91% received maximum allowances ($2201 and above).

In contrast to the above data, the "estimated" remissions of the Student Finance Board for 1978 in Alberta was $490 for an "estimated" 11,459 students. Average loans guaranteed by the Province were $735, and $1327 by the Federal government.

The reader is encouraged to speculate on the reasons why such a different level of support and participation is available in Australia and Alberta.

4. Summary

Various rationale have been identified and discussed. It is the author's opinion that the most important rationales, and those which should be highly valued are social equity, societal investment and benefit, and personal investment and benefit. Rationale which must be recognized as part of reality include public opinion, the economy, and political factors. Under some circumstances, manpower needs must also be recognized.

It has been argued that social equity is important because it provides the capability of individuals to change the course of their social circumstances, to aspire to ideals dependent only upon their capacity to benefit from learning and not their financial circumstances. The concept of social equity has been implemented in other areas, notably in the area of medical aid. Although there have been charges made recently that medical aid is being abused and that a user 'fee' is required, this is not an argument which can be applied to education. Education at the post-secondary level is not a remedial or corrective process in most cases. The student must demonstrate his ability to learn in order to maintain participation. Participation is not brought about by default, passiveness or by negligent behavior as it might when medical attention is needed.

The importance of societal investment and benefits cannot be over stated in light of the many advances based upon the capturing of knowledge from nature. The benefits enjoyed by Albertans, based upon not only the development of new knowledge, but the maintenance of this knowledge within the work force, cannot be denied nor measured in dollars. More frequently than most of us would wish to think, critical need for knowledge is evidenced by someone personally, as in the need for medical cures, or collectively, as in the need for new energy sources. The author's statement to the Task Force that society benefits in perpetuity, while individuals only benefit for a life time, although individuals may sometimes behave as if they intended to benefit in perpetuity also, is a fundamental statement related to who should pay the greatest share of the costs of post-secondary education. The evidence suggests that cost does affect accessibility. It has been argued that many western, democratic nations have made greater strides in attempting to ameliorate the equity problem than Canada or Alberta.

The author's estimates of society's and student sharing of costs indicates an almost equal sharing in Alberta. This is not commensurate with the benefits that Albertan's enjoy from the fruits of post-secondary education systems around the world. The author has also taken the position that post-secondary education, in fact all education, is a process to prevent recessions to the dark ages, to maintain what we have, and as an insurance policy against the unknown problems of the future. This is believed to be true in both a personal and societal sense whether it involves the economic well-being of the country, or the personal well-being of an individual.

Personal investment and gain are important factors, but the issue is constrained when only fiscal accounting is practiced. Personal investment means not only financial investment, but time and effort required to study and demonstrate competence. A professional will claim compensation for the "thinking time" necessary to carry out a commitment. Why then is studying not viewed with the same relevance and importance? There is no doubt that personal gain is a tremendous reinforcer for most people. Personal gain cannot be used as a basis for establishing the extent of a student's contribution to post-secondary education for it is almost impossible to relate such gains directly to a program of study. The author's view is that the income tax system is the method by which individuals can repay the educational system for the benefits they have obtained. The income tax is applied, generally speaking, on demonstrable financial benefits. Demonstrable benefits are not as easily and clearly defined prior to, or during attendance at post-secondary institutions.

The author is not so naive and idealistic to think that public opinion and political factors are not important in the issue. Unfortunately, it cannot be said that there was a 'ground swell' of support from the public for the post-secondary education system, even though there were some notable pleas for its support. A government can act upon the opinion of the various publics including pressure groups, or it can attempt to change the attitudes of the public. The government can force students to pay more if it is within its interest. It is the author's opinion that there is little or no evidence to indicate that government wishes to change public opinion regarding the importance of post-secondary education, but there is evidence to suggest that government does wish the cost to students to increase. The author believes that the only rationales which can support increased fees are public opinion and the government's political and social policies. If these two rationale are to be viewed as more important than, for example social equity, then it would have been wiser for the government to have conducted a proper sampling of public opinion rather than to establish a task force. In addition a task force was not necessary for government to carry out its perogatives in the area of political and social policies.

The author has reviewed the economy of the Province with reference to the Public Accounts. It is the author's opinion that on the basis of the economic factors as represented in the Public Accounts, there can be no justification for asking students to increase their contributions to post-secondary education. In fact with so many governments claiming the need to cut the rate of inflation, here is one cost which can be controlled by government in order to help reduce the inflationary spiral.

The rationale of manpower is a special one, for there are circumstances when it does become important. For example, in the case of a national emergency, or for local emergencies such as the training of teachers shortly after the second World War. The need to redirect manpower is a complex issue which requires full recognition by the public, government, and the institutions of all the short and long range implications in terms of fiscal policies and the freedom of individuals.

5. The Report of the Task Force

It is quite true that the recommendations of the Task Force represent a majority position of the members. However, it is the author's opinion that many important issues which were raised as 'questions' posed to the public in order to 'stimulate discussion' require not only the study of various rationales, but facts. A large amount of data were presented to the Task Force, too much to be properly thought about, digested, and evaluated in a short period of time or by one person.

In pointing to the deficiencies of the report, the author is not questioning the right of a majority opinion to take precedence over the minority, however, a majority vote does not by any means guarantee a wise decision or that a divine spirit was necessarily present. There is of course no assurance of any divine guidance being available for this report either.

5.1 Comments on the Report

1. *"Tuition fees and associated student costs appear (to the Task Force) to have been determined in the past without any rational approach". (Page 7).

   On page 11 it is noted that the minority was opposed to the arbitrary nature of the tuition ratios proposed for establishment of increased fees. No substantial rationale has been provided by the majority of the Task Force for the raising of fees, and therefore, it has perpetuated the historical approach.

2. *"The Task Force recognized the integrated value of

post-secondary education to both society and to individuals and contends that individual benefits accrue primarily for a lifetime, whereas society tends to benefit in perpetuity from an educated population".(Page 8).

The author personally agrees with this statement, in fact, it is to be considered one of the most important statements in the whole report since it touches very closely upon the rationale of societal and individual benefits. The individual benefits to the developers of polio vaccine will only last a life time, but the rest of the world, including Alberta, will benefit in perpetuity. Should not this statement to some extent govern the estimation of who should pay the major costs of post-secondary education? In raising the fees, one can only speculate that the majority of the Task Force members could not visualize that benefits in perpetuity are greater than those of a life time. The author would argue that the recommendation to raise fees is incongruous with the statement made about societal and individual benefits.

3. *The Task Force recommends that there should be a tuition fee at post-secondary insitutions, and justifies this recommendation on the basis that fees are only a small part of the student's contribution, and that the present level does not affect accessibility. (Page 9).

The contribution of the students towards their education was estimated in this paper and found to be considerably higher than the often quoted figure of one dollar to seven by government. The tuition fee at the university level could be as high as 20 to 25% of total costs, and cannot be considered a minor expense. In the light of the Australian data, and data of many other studies indicating cost does affect accessibility, the Task Force took the position that fees at their present level did not limit accessibility. The evidence of many studies does not support this position, and there is no evidence to suggest that the present level does not affect accessibility.

4. *The majority of the Task Force took the position that "individuals pay for the benefits that accrue to them and share in the costs and risks" as a reason for a tuition fee. (Page 9).

This position negates the earlier statement that society obtains benefits in perpetuity. Individual Albertans do not pay for the true cost of a polio shot, for this would require the payment of many people around the world. Society collectively pays for the knowledge gained by adding to the pool of knowledge through its educational systems. This position places too much emphasis on the "costs and risks" and suggests that getting an education falls into an economic category similar to speculating on stocks and bonds or even land. Furthermore, the statement suggests that studying is not an acceptable form of payment.

5. *The Task Force supported its position by noting that in a "free enterprise society prospective students (must) learn the value of the work ethic through having to pay for their tuition". (Page 9).

It would seem that students from poor financial backgrounds must learn the work ethic to a greater extent than those from wealthy backgrounds. In addition, there are many 'free enterprise' societies in which there is no tuition fee charged post-secondary students. Again, the work that a student does in attaining success in his educational program appears insufficient to give the proper training in the work ethic, -only the earning of money for tuition seems to define the appropriate 'curriculum' of study. It would also appear that working for the bulk of other post-secondary costs does not have the same capability for learning the work ethic. For example, why does not earning money for room, board, and books, help in learning about the work ethic? Since these latter factors are open to free market fluctuation and are ever increasing, they should also provide an adequate curriculum. Perhaps these factors have been ignored because "it costs just as much to live at home as away from home". In hopes of finding support for this argument the author is still seeking to find the company representative who does not get a room and board allowance while away from home.

6. *There are already sufficient demands on the public purse, and the general public would be unwilling to support higher costs for post-secondary education. (Page 9).

Of course there are 'sufficient demands' on the public purse. There is no doubt that major expenditures as noted in the Public Accounts go for the support of people. But what else would one expect? Only people provide the basis for our economies. The demands upon the public purse come from many sources, and it should be noted that in the period from 1976 to 1978 over one-half billion dollars in taxes were not collected from corporations. This is indeed, a large expense on the public purse without any assurance that such funds were spent in Alberta or even Canada.

It is the author's opinion that the statement that the general public would be unwilling to support higher costs for post-secondary education are probably true. As a society we are spoiled. We expect cures when we walk into the doctor's office and are dismayed when none exist. Through faith we expect people to bring forward such cures and technological advancements with little more than an iota of consideration as to the work which many people must do in order to produce such gains. We have forgotten that many people had to spend years of study and research to provide us with our present advances, advances which last in perpetuity.

7. *Alberta must consider its position in the North American context and could not take action to remove fees independently. Such action would have significant effect not only on Alberta institutions but on all other provinces as well as on the United States.(Page 9).

The question is "What significant effect would removal of fees have?" Could it be that the majority of the Task Force felt enrollments would go up? If enrollments were to go up, this would be contrary to the statement made in the report that 'the present level of fees has little effect on accessibility'. The author suspects a logical inconsistency exists. Regardless of the effect, quotas have been used in a number of post-secondary programs for a number of years. There is a simple control already available to handle any great influx of students.

8. *Payment of fees provides a degree of autonomy to both students and to post-secondary institutions.(Page 9).

The only institutions having some degree of autonomy are those with boards of governors. All the provincially administered institutions do not have this autonomy. Raising fees in the latter institutions therefore provides no increased degree of autonomy. The best method, in the opinion of the author, to preserve institutional autonomy is through legislation which clearly specifies the composition of the boards in terms of the provincial population and the area of decision making of the boards and Minister in charge of the institutions.

9. *Accessibility to post-secondary education generally is affected more by attitudes and values than by financial factors and therefore the removal of fees would not necessarily increase accessibility to post-secondary education.(Page 9).

Research evidence tends to support the position that attitudes are probably an important factor. Whether it is more important than finances is open to question. In addition, there could be an interacting effect between finances and attitude.

10. *All programs within a given institution should have the same fee. (Page 9).

    Equal fees within an institution do provide some degree of social equity in the sense it would allow a student to enter medicine at the same costs as entering Arts or Education. Thus, finances would not become a discriminator in selecting a field of study. However, the majority of the Task Force did not rationalize this recommendation on this basis, for had such a rationalization been given, it would acknowledge that tuition fees do have some effect upon accessibility. Furthermore, the availability of equality of choice of program independent of finances is only available to those who can afford to attend at the raised fees. The choice between becoming a teacher or a doctor is irrelevant if a student cannot afford either.

11. *There should be three levels of tuition fees based on the following positions: University tuition fees should be the highest, college and technical institute tuition fees should be the same, and the difference between university tuition fees and college/technical institute fees should be less than at present. Alberta Vocational Centre fees should be the lowest. (Page 10).

    The Task Force has rationalized this recommendation on the basis that fee differences have traditionally existed, and the public's views of institutional status. It further asks University students to pay more because of the university's involvement in research and because of its international involvements. The majority of the Task Force has in effect asked that a student also pay more because of professional programs. It is the author's opinion that none of these rationalizations are commensurate with rationales developed in this paper. In fact the reasons given for university fees being the highest are essentially those which the author has argued support societal benefits. The rationalization for technical school fees is essentially one of public opinion and the need for manpower training.

12. *The Task Force noted that "different fees for different levels of institutions is therefore best supported by manpower needs and the responsiblity of government to express social policy". (Page 10).

    This statement explicitly recognizes that tuition fees has an effect upon accessibility, a position the majority of the Task Force does not fully accept at the beginning of its report. The concept of social equity is a component of social policy.

13. *The majority of the Task Force recommended that the

following factors be taken into account in raising or lowering of fees: manpower policy, social policy, cultural policy, total student costs, increased demands on public funds, increased costs in the base fee only, effects of costs on accessibility, trends in other provinces or countries, and historical values and attitudes.
The majority further recommended that overall economy of the Province, remuneration upon graduation, and cost of living increases not be factors in lowering or raising fees.(Page 12).

Implicit in this recommendation is that fees do have an effect upon enrollment. In recommendation 3, the majority of the Task Force noted the "responsibility of government to express social policy",and in effect places this factor into the hands of government. The majority of the task force has ignored one of the most important factors, the value of post-secondary education to society. The Task Force should have debated and fully evaluated the rationales which have been presented in this report in assessing whether fees should be increased or decreased. The author finds it hard to believe that the provincial economy would not become an important factor if it became markedly depressed.

14. *The Task Force recommended the need for greater coordination of program development and services; control and monitoring of financing.(Page 14).

The Task Force had essentially no information concerning the need for greater coordination among the institutions. No meetings were held with officials of the various institutions to determine what coordination already exists or where coordination should be increased. There were no discussions with civil servants regarding this topic either.

15. *The Task Force recommended that a study be undertaken concerning the academic, administrative and non-academic staff members' income benefits including the issue of tenure, sabbaticals, summer teaching and consulting.(Page 14).

Properly researched reports should not be discouraged. However, the majority of the Task Force had essentially no information about such topics. The Task Force did not have any discussions with administrators of most institutions, or staff associations on this topic. The author has provided some information concerning staff costs in this paper.

16. *The Task Force could not make any recommendation concerning fees for non-Canadian students. (Page 13).

The author was a foreign student in the United States, and has many ex-students whom he taught who also received their education as foreign students. In the case of the author, under the assistantship which was held at the University of Illinois, no tuition fees were paid. The remuneration for assistant services was approximately $200 per month for 20 hours of work per week. The author is not advocating that the Province embark on a massive foreign student services program, but does feel that with restrictions on numbers and quality, foreign students should pay the same as Albertans.
The report of Task Force suggests that Albertan students would be subjected to a "double taxation" because of attendance at institutions outside of Canada. This "double taxation", in the view of the majority of the Task Force has some merits (page 9 of the report) i.e., consistent with our nature of society, part of a free enterprise society for learning the work ethic, and tuition fees are only one factor in students' contributions anyway. It would appear higher costs when required outside of Canada is a form of double taxation, but higher costs in Canada enhance the learning of the work ethic.

17. *The majority of the Task Force recommended that the Silber Plan become a method by which student assistance is provided. (Page 15).

    The author has discussed this plan in some depth by direct reference to the proposed legislation. Not only is the plan unworkable in many respects it assumes that the primary, if not sole benefactors of a post-secondary education are the students. The Task Force recognized the integrated benefit of education to individuals and society, yet this recommendation advocates that all costs should be borne by students. It in effects recommends also, that ex-students should finance the educational studies of current students.

18. *Although the author can accept some of the recommendations made by the majority of the Task Force which correct for deficiences in the current form of student assistance, such recommendations can only be considered as 'patch work' until an adequate rationale is stated in terms of evaluating the major rationales suggested in this paper.

19. *The majority of the Task Force has suggested that there is a lack of institutional flexibility particularly at the universities to adjust internal priorities to take on new programs to benefit Albertans. (Page 21).

    The primary basis of this suggestion was the reticence of the University of Calgary to take on a new program in optometry. In the author's opinion there is good reason for universities to be wary of taking on new programs for the same reason that government is wary of new programs, ie., they can impact existing programs. Universities have come to realize that they should not become "everything to everyone" but rather should concentrate on those programs which they can do well. The author feels that universities would take on new programs if there was some assurance, beyond the life of a particular government, that such programs would not impact important programs which already exist. In addition, if there is a feeling that some existing programs cannot be adequately financed, that quality is already being sacrificed, this will work against the introduction of new programs.

20. *A suggestion has been made that N.A.I.T and S.A.I.T. be administered by a boards of governors. (Page 21).

Little evidence was presented to support this recommendation although the recommendation would bring these institutions in line with others. Boards of governors do not necessarily guarantee autonomy, but the presence of a board does seem to be correlated with lower costs.

21. *It has been suggested that capabilities of ACCESS and the University of Athabasca be used more effectively. (Page 21).

The suggestion may well be a good one, however, there is no data to support this suggestion. The author cannot recall that the mandates of either organization were ever presented to or studied by the Task Force. The public must keep in mind that there are some programs which should probably not be handled in a completely remote way. For example, an extreme case would be the training of a medic or engineer through correspondence or self study courses.

6. Concluding Statement

In the author's opinion it would have been wiser for the majority of the Task Force to acknowledge that the most important and highly valued rationales related to post-secondary education costs suggest that costs should not be increased for students, but that neither the public nor the government would easily accept such a recommendation.

The author hesitates to make a complete set of recommendations based upon placing a high value upon the rationales of social equity, societal and individual benefit, for the task of critically evaluating the various rationales was a responsibility of the Task Force. The primary purpose of the author was not to define new recommendations, but rather to specify various rationales so that the reader can make his own assessment as to whether fees and other costs should be increased or decreased. Nevertheless, on the basis of placing a high value on the arguments developed under the rationale of social equity, and recognizing the political and attitude factors, the author suggests that tuition fees should be frozen for the next five years.

1. This action would allow the effects of inflation to reduce the relative magnitude of the tuition component, but would not reduce overall costs. In fact costs to the student would likely continue to increase because of expected increases in room and board, supplies, and transportation.

2. The reducing of tuition costs would be a small step towards recognizing the importance of social equity, however, since the reduction would be small in each year, it would be more acceptable to the government and

those elements in the public who advocate fee increases.

3. Since it would be expected that the relative importance of fees would become smaller compared to other costs, there would be slightly increasing enrollments assuming other factors affecting enrollment do not change. Enrollments by students from other provinces and countries could be easily controlled by the present quota policies used by the universities. Albertan students could be defined by the province to which provincial income taxes were paid in the previous year.

4. Those institutions which retain tuition income, i.e., universities and public colleges, would suffer a loss of income due to the inflationary degradation of tuition fees, and compensation in terms of government grants would be required. It is suggested this would be no burden on the economy, nor would it affect the learning of the work ethic considered to be important by the majority of the Task Force.

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